

chemNEWS

ALUMNI NEWSLETTER PUBLISHED BY DEPARTMENT OF CHEMISTRY UNIVERSITY OF KENTUCKY Summer 1990

Franklin E. Tuttle conference room dedicated

The newly renovated conference room of the Chemistry Department was officially dedicated to the memory of Dr. Franklin E. Tuttle on April 25, 1990. The room is now almost 30 years old and was beginning to show its age. Once the drapes, carpet, ceiling tiles and furniture had been replaced, new lighting installed, and the walls repainted — the room, used for seminars and special activities — was ready for a new generation of chemists. Col. Behrman, who left the department a generous bequest for graduate education, specified that the gift was made in honor of Dr. Tuttle.



Charles Tuttle, Frances Tuttle Weaver, grandchildren and David Watt, chairman of Chemistry Dept. dedicate the Tuttle Conference Room.

"A generous portion of the credit (for Dr. Behrman's success) must go to the University of Kentucky and the Department of Chemistry...especially to my great teacher and friend, Dr. Tuttle, for giving me the start that made that record possible." Attending the dedication ceremony were Charles Tuttle of Columbus, OH and Frances Weaver of Gainesville, FL, grandchildren of Dr.

Tuttle. A former student of Dr. Tuttle and friend of his daughter, Margaret Tuttle, Ms. Austin P. Lilly of Georgetown, KY was present with two friends, Ms. J.M. Lilly and Ms. Ellen C. Allen.

The room also holds a new lighted display case with photographs of Dr. Tuttle, a copy of his personnel record (which shows an annual salary of \$1,800 for the first year of his appointment, 1906) and a menu and program for the dinner held in 1934 when Dr. Tuttle became Emeritus Professor. A cast metal plaque naming the room after Dr. Tuttle has been installed.

Dr. Tuttle, who died in 1950 at the age of 85, came to the University of Kentucky as head of the department in 1906 and held that position for 28 years until his retirement in 1934. He was educated at Amherst College (A.B.) and Gottingen University (Ph.D.).

A brass plaque bearing Dr. Tuttle's bust and the words "Outstanding teacher, inspiring advisor, keen judge of men" was presented to the University and President McVey in 1938 by an admiring group of alumni and friends. It was moved to the present building when it opened in 1963 and adorns a wall near the main entrance.

In the ceremony of 1938 an alumnus, Mr. Glover Birk, remarked that Dr. Tuttle "has worked on the chemistry of the lives and hearts and characters of his students....His own character is the catalyst that reacted upon every one of us who know him....The products of this chemistry are men and women. To me, it seems that the key word of his character is integrity — a self-evident, transparent integrity crystallized with a true modesty that inspires and demands confidence from every one, whether a child or scientist or highly placed business executive."

A Message From The Chairman

At the end of my third year as Chairman, it has become more difficult for me to remember precisely which events happened in the past year. So much has happened that is positive that I hesitate to attempt to list the faculty and student accomplishments. There are, to be certain, several significant events that do stand out: John Richard's promotion to Associate Professor and the hiring of Mark Meier, a new Assistant Professor of Organic Chemistry are two particularly important events.

Our revisions in the graduate program, due largely to the efforts of Jim O'Reilly, the Associate Chairman, and the Graduate Program Committee are also significant. We have also been fortunate to receive a \$2 million dollar appropriation from the Legislature to begin the much needed renovation of the Chemistry-Physics Building. We hope, once an architect is commissioned, to develop a master plan for renovation and new wing construction that will benefit both departments that share this building and provide us with the needed laboratory research and teaching space for another twenty years. The administration, as a separate project, is also willing to renovate all the fume hoods in the building.

We have also managed to secure funding for an Undergraduate Research Program from the National Science Foundation, thanks to the efforts of Jeff Appling. Our success in this area goes in part to the generosity of our alumni who, in donating to the Endowment Fund, permitted us to initiate a summer program of this type several years ago. We feel that the National Science Foundation's positive response to our application was due to the success of this former program.

Finally, we have, as a result of a suggestion by Bob Kiser, the Director of the General Chemistry Program, initiated a \$500 award to the best undergraduate student in general chemistry. Two such awards have already been given, and perhaps this incentive, coupled with other innovative changes in the program,

accounts for the improved performance and attendance in our General Chemistry courses.

My overall impression is that the Department is doing very well in both the research and teaching arenas. By any criteria that you may choose — numbers of publications, extramural funding, invitations to present papers, numbers of M.S. and Ph.D. degrees granted — the Department's record is one of continued improvement.

Of particular pride to all of us is the fact that we have continued to maintain a strong undergraduate teaching program while accomplishing these other goals. Our success is due to the collective efforts of the faculty, our graduate and undergraduate students, and our staff. I thank all of them for their support and help, and I certainly thank our alumni for their continued generous support for our programs.

David S. Watt, Chairman



(l. to r.) M. Benton Naff, Andrew Hamilton, William De Grado, Steven Zimmerman, Ronald Breslow

Sixteenth annual symposium on Chemistry and Molecular Biology

The tradition of excellence associated with the annual symposium series on Chemistry and Molecular Biology was continued in April 1990 with a day-long symposium on molecular recognition. Four outstanding chemists, Ronald Breslow of Columbia University, William DeGrado of duPont, Andrew Hamilton of the University of Pittsburgh, and Steven Zimmerman of the University of Illinois discussed their research on the mechanisms by which biological macromolecules recognize their ligands.

The symposium series, known familiarly here as the Naff Symposium, was initiated in 1975 in memory of Anna S. Naff "to stimulate thought on, understanding of, and insight into the chemical process in living things" and for 16 years each symposium has seemed better than the last. Dr. M. Benton Naff, who has attended each symposium, was present this year with friends, Jane and Fred Starks, and his niece, Doris Landon.

This year's symposium was organized by a committee headed by Dr. John Richard.

In April 1989 the topic of the Naff Symposium was biosensors. The speakers and their topics were Robert Kobos of duPont ("Electrochemical Biosensors"), Jerome Schultz of the University of

Pittsburgh ("Optical Fiber Biosensors"), R. Mark Wightman of Indiana University ("Detection of Neurotransmitters with Voltammetry"), and Lemuel Wingard of the University of Pittsburgh ("New Molecular Structures for Biosensors"). Dr. Leonidas Bachas headed the organizing committee.

Financial Report

According to the provisions of the Anna S. Naff Endowment Fund, which supports the Annual Symposium on Chemistry and Molecular Biology, a financial report is to be published periodically. The last report was printed in this newsletter in 1986.

Symposium Date	Chairman
4/24/87	J.P. Selegue
3/38/88	C.P. Brock
4/24/89	L. Bachas
4/16/90	J.P. Richard
Topic	Support
Electron Transfer in Metalloproteins	\$7040
Structure and Function of Small RNA Viral Pathogens	\$4966
Biosensors	\$5951
Molecular Recognition	\$6467
Endowment Fund Reserve 4/30/90	\$100,410

semi-theoretical methods of Benne Witt and Rossner¹ are of the order of 10 per cent. low, or more, as Pitzer likewise found in the case of their experimental determination on *n*-heptane.

(3) Pitzer, *Trans. Journal*, **58**, 2413 (1931).
 (4) Benne Witt and Rossner, *Z. physik. Chem.*, **239**, 120 (1938).

DEPARTMENT OF CHEMISTRY
 STANFORD UNIVERSITY
 STANFORD UNIVERSITY, CALIFORNIA

RECEIVED OCTOBER 14, 1941

The Identification of Alcohols in Aqueous Solution

By WILLIAM N. LIPSCOMB AND ROBERT H. BAKER¹

The identification of an alcohol when it appears in aqueous solution as from the saponification of an ester usually involves its isolation by repeated distillation, salting out, and drying. Henstock² was able to avoid this time-consuming procedure by the use of the Schotten-Baumann reaction of *p*-nitrobenzoyl chloride at -15°.

We have found that the more satisfactory 3,5-dinitrobenzoates may be formed by slight modification of the Henstock procedure. The process involves adding alkali and sodium acetate to the aqueous solution of the alcohol and shaking it at

(1) Present address, Northwestern University, Evanston, Illinois.
 (2) Henstock, *J. Chem. Soc.*, 216 (1933).

The Identification of Alcohols in Aqueous Solution

William N. Lipscomb and Robert H. Baker
 Department of Chemistry
 University of Kentucky
 January 1947

Abstract: The yield of ester is affected rather strongly by the temperature, the nature and concentration of the alkali, and to a lesser extent by the catalytic effect of sodium acetate. Preliminary experiments showed that in the presence of alkali the alcohol must be in a liquid phase during the course of the reaction. When other conditions are held constant the yield of ester is affected by the nature of the alkali, with the exception of effect, are consistently low. This is true even when extreme care is taken to remove all alcohol from the ester and therefore must be due to the presence of the alcohol in the reaction mixture. The yield of ester is greater at 25° than at 10° temperature, and it becomes to employ the difficulty-oxidation lower temperature. The yield of ester is also greater when formed in the presence of 3% sodium hydroxide as it is when a similar concentration of sodium hydroxide is used, and similar results such as sodium hydroxide give negligible yields of the ester. Forming the concentration of the alkali hydroxide in the reaction mixture at 25° increased the yield of ester as shown by Fig. 1. It is suggested to use concentrations of sodium hydroxide in excess of 3%, because the reaction mixture becomes acid and difficult to handle.

Report—To be a 3,5-dinitrobenzoate alcohol in aqueous solution in one flask to 200 ml. with 100 ml. of 10% sodium acetate solution and the alcohol must be in a liquid phase during the course of the reaction.

Abstract: The yield of ester is affected rather strongly by the temperature, the nature and concentration of the alkali, and to a lesser extent by the catalytic effect of sodium acetate. Preliminary experiments showed that in the presence of alkali the alcohol must be in a liquid phase during the course of the reaction. When other conditions are held constant the yield of ester is affected by the nature of the alkali, with the exception of effect, are consistently low. This is true even when extreme care is taken to remove all alcohol from the ester and therefore must be due to the presence of the alcohol in the reaction mixture. The yield of ester is greater at 25° than at 10° temperature, and it becomes to employ the difficulty-oxidation lower temperature. The yield of ester is also greater when formed in the presence of 3% sodium hydroxide as it is when a similar concentration of sodium hydroxide is used, and similar results such as sodium hydroxide give negligible yields of the ester. Forming the concentration of the alkali hydroxide in the reaction mixture at 25° increased the yield of ester as shown by Fig. 1. It is suggested to use concentrations of sodium hydroxide in excess of 3%, because the reaction mixture becomes acid and difficult to handle.

Alcohol	Yield of Ester (%)	Temp. (°C)	Alkali (M)
1-Propanol	100	25	0.1
1-Propanol	100	25	0.2
1-Propanol	100	25	0.3
1-Propanol	100	25	0.4
1-Propanol	100	25	0.5
1-Propanol	100	25	0.6
1-Propanol	100	25	0.7
1-Propanol	100	25	0.8
1-Propanol	100	25	0.9
1-Propanol	100	25	1.0
1-Propanol	100	25	1.1
1-Propanol	100	25	1.2
1-Propanol	100	25	1.3
1-Propanol	100	25	1.4
1-Propanol	100	25	1.5
1-Propanol	100	25	1.6
1-Propanol	100	25	1.7
1-Propanol	100	25	1.8
1-Propanol	100	25	1.9
1-Propanol	100	25	2.0
1-Propanol	100	25	2.1
1-Propanol	100	25	2.2
1-Propanol	100	25	2.3
1-Propanol	100	25	2.4
1-Propanol	100	25	2.5
1-Propanol	100	25	2.6
1-Propanol	100	25	2.7
1-Propanol	100	25	2.8
1-Propanol	100	25	2.9
1-Propanol	100	25	3.0
1-Propanol	100	25	3.1
1-Propanol	100	25	3.2
1-Propanol	100	25	3.3
1-Propanol	100	25	3.4
1-Propanol	100	25	3.5
1-Propanol	100	25	3.6
1-Propanol	100	25	3.7
1-Propanol	100	25	3.8
1-Propanol	100	25	3.9
1-Propanol	100	25	4.0
1-Propanol	100	25	4.1
1-Propanol	100	25	4.2
1-Propanol	100	25	4.3
1-Propanol	100	25	4.4
1-Propanol	100	25	4.5
1-Propanol	100	25	4.6
1-Propanol	100	25	4.7
1-Propanol	100	25	4.8
1-Propanol	100	25	4.9
1-Propanol	100	25	5.0

Regional undergraduate poster competition rewards students

Evidence that chemistry is alive and healthy could be seen on Saturday, April 28, 1990 when undergraduate chemistry majors from a wide region gathered in Lexington to present their research in a poster session sponsored by the Procter and Gamble Company, the Lexington Section of the American Chemical Society, the College of Arts and Sciences and the Robert M. Boyer Memorial Fund of the Department of Chemistry at UK. This year was the fifth year for the competition in the department.

These were extraordinarily dedicated students. Many of them traveled long distances (a group from Pittsburgh was on the road for the better part of two days) on a warm, spring weekend that lured many of their friends to less serious activities. Twenty-two students from nine colleges and universities were represented.

The judges were unanimous in their award of the top prize of \$200 to Jeffrey Orr of Indiana University for his poster titled, "Mechanism of Protein Kinase C/Membrane Interaction."

They awarded two second prizes of \$100 each to Kevin Enzweiler of Northern Kentucky University and to Waleed Qaisi of the University of Kentucky.

Three honorable mention awards of \$50 each went to Alan Ladd and Michael Wilson of Indiana University, to Elizabeth Ferguson of the University of Kentucky, and to James Staszewski of Indiana University.

Dr. Steven McClanahan of the Procter and Gamble Company, Dr. Alan Goren of Transylvania University and Dr. Robert

Kiser of the University of Kentucky served as judges for the event.

The day ended with dinner at the Faculty Club, presentation of the awards by Dr. Robert Guthrie of the University of Kentucky, who organized the event, and an address by Dr. William N. Lipscomb, Jr. titled "How Do Enzymes Work?"

The posters were displayed in the newly dedicated Tuttle Room, which was packed with participants and the many visitors who observed the posters and talked with the student presenters.

Among the posters was an unexpected one, dated 1942 and bearing the title "The Identification of Alcohols in Aqueous Solution" by William N. Lipscomb and Robert H. Baker of the University of Kentucky.

Dr. Guthrie prepared the poster based on Dr. Lipscomb's first published paper with Professor Baker from the Journal of the American Chemical Society. During the awards ceremony Dr. Guthrie pointed out the parallel between that starting point in Dr. Lipscomb's distinguished career and the beginnings of the careers of the students present.

Winners in last year's poster competition were: First Place: Benny Johnson, University of Kentucky, \$200; Second Place: Allan Witkowski, Transylvania University, \$100; Honorable Mention (\$50): Hannah Chow, Gina Calhoun, Ann Carter, Michael Huang, Greg Roberts and L.S. Clore of the University of Kentucky; Melissa Triplett, University of Cincinnati; and Michael McKinney, Eastern Kentucky University.

New Faculty

Vahid Majidi, Mark Meier join department

Vahid Majidi joined the department as Assistant Professor in August, 1989. He received the B.S. degree at Eastern Michigan University in 1983 and was awarded the Ph.D. at Wayne State University in 1987 under the direction of Professor D.M. Coleman with a dissertation titled: "Interferometric/Schlieren/Spectroscopic Observation of Species in High-Voltage Spark Discharges Based on Transient Magnetic Field Perturbations".

At Wayne State he received the Livingston Award for Excellence in Teaching of Chemistry, the Rumble Fellowship, and the Boltz Award for Outstanding Research. After two years as a postdoctoral research associate at the University of Texas at Austin doing research on trace metal speciation using

biological organisms under the direction of Professor James A. Holcombe, he joined the analytical division at UK.

His research interests include the analytical applications of laser-induced breakdown, the application of time-of-flight mass spectrometry for elemental analysis, and elemental analysis using biological organisms for preconcentration and speciation. Vahid and his wife, Jeanne, have a two-year-old son named Alexander (the Pretty Good).

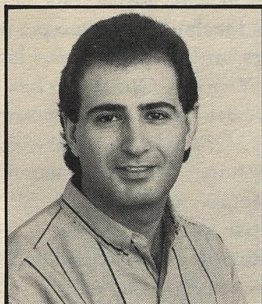
The strength of the analytical division is now apparent in the roster of Leonidas Bachas, Jim Holler, Rob Lodder, Jim O'Reilly and Vahid Majidi. The department has enjoyed a year of Vahid's good humor, his excellence as a teacher and his expertise in research. The department looks forward to many more.

Mark Meier will join our faculty as an Assistant Professor in the fall of 1990. Mark grew up in Tacoma, WA and graduated from Dartmouth College.

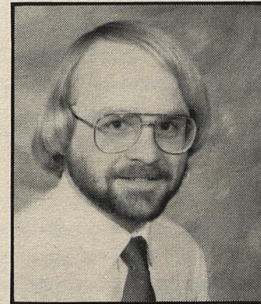
In 1988 he received the Ph.D. from the University of Oregon with a dissertation, written under the direction of Professor Bruce Branchaud, titled "The Development of Cobaloxime-Mediated Radical Alkyl-Alkenyl Cross Coupling Reactions and an Application to a Synthesis of Ammonium 3-Deoxy-D-manno-2-Octulosonate (KDO)."

Since 1988 he has been a postdoctoral research fellow in the laboratories of Professor Marye Anne Fox at the University of Texas at Austin doing research on electron transfer in helical peptides.

Mark is primarily a synthetic organic chemist. At UK he plans to apply this expertise initially to two specific areas. He will prepare peptide segments that have well-defined helical structures and examine the effects of that structure on certain chemical and biological processes. He is also interested in stereoselective synthesis based on some new chiral metallocenes. Mark's seminars on his research at Oregon and Texas, his presentation of proposals for independent research, and his discussions with faculty and students during his visit to Lexington in February provided convincing evidence of his excellence both as a teacher and researcher. We look forward to his arrival this summer.



Vahid Majidi



Mark Meier

True or False? High school students want chemistry exam?

True or False? High school students would be willing to pay cash to take a difficult examination in chemistry at 9 a.m. on a Saturday morning in April. If your answer was false, you have underestimated the group of about 50 high school freshmen, sophomores, juniors and seniors from 14 schools all over the state of Kentucky, who spent about an hour and a half taking a standardized test prepared by the American Chemical Society.

High schools from as far away as Hopkinsville in the west to Belfry in the east were represented. The seven students who scored above the 50th percentile, based on national norms supplied by the ACS, are eligible to by-pass CHE 105 and 107, General Chemistry, at UK. Stephen Chan, a junior at Tates Creek High in Lexington won the \$200 first prize, Eric Potter of Edmonson County High won the \$100 second prize and Hollie McIntosh of Russellville High won the \$50 third prize. These three and Mason Miller of Sayre School in Lexington, Michael Combs of Hopkinsville, Kari Woodlee of Russellville, and Karen Johnson of Danville, scored above the 50th percentile.

While the students were taking the

exam, the teachers and parents who had accompanied them heard an informative talk by Mr. Mike Howard, Director of Science Education for the Fayette County Public Schools.

After lunch the students toured the Chemistry Department and learned about research in chemistry at UK from graduate students in various labs throughout the building. The high point of the afternoon was a spectacular magic show by Guarr the Great (Dr. Tom) and the Amazing Appling (Dr. Jeff). Dr. Appling's glowing electric pickle, with its sodium D line emission, was a hit.

The dedication of the small group of UK chemistry majors who organized the event was as impressive as that of the high school students who took the exam. SAACS (the Student Affiliates of the American Chemical Society) wrote all the high schools in Kentucky, proctored the exam, raised money for prizes from sales of T-shirts and coffee and doughnuts, and looked after the myriad of details that go into such an operation. Officers for the 1989-90 academic year were Mary Hansen, president, Waleed Qaisi, vice president, and Jim Hembree, treasurer.

Departmental secretaries cope cheerfully with frustrations

Although there are computer word processing capabilities in all faculty offices, the departmental secretaries are busier than they've ever been before. In many departments on campus there is considerable turnover in the secretarial staff; in Chemistry not only do the secretaries display remarkable loyalty to the department, but also, they often work long past the normal quitting time.

This group, which includes Joyce Cambron, faculty and technical secretary, Geri Gerke, secretary to the Director of General Chemistry, Yvonne Queen, receptionist and secretary to the Director of Graduate Studies, Mary Schwendeman, secretary to the Laboratory Manager, June Smith, technical secretary, and Nancy Stafford, administrative assistant and secretary to the Chairman, is a remarkably dedicated and hard-working group of professionals.

In addition to their normal duties, they cheerfully cope with countless interruptions from faculty, staff, graduate students, and undergraduates, and frustrations that would send ordinary mortals to an early grave. The department gathered recently for lunch at Amato's to honor them and express its gratitude.

Although the number of departmental secretaries has been constant for many years, other numbers have increased. The number of publications from the department for July 1989 to January 1990 was 75, compared with 55 for July 1985 to July 1986. Grant support for the seven-month period of 1989-90 was \$1,423,574, compared to \$534,528 for the twelve-month period of 1985-86. For the 1989-90 academic year, 25 full-time faculty, 2 part-time faculty and 62 graduate students have been employed in the department.

Special News from the 1955-59 Alumni

In 1980 Bill Wagner initiated a special section of Chem-News featuring alumni from five-periods starting in 1920. In that issue the editor complained that although he had written all the alumni who had graduated before 1920, he had received only one reply, from none other than A.S. Behrman. The editor exhorted that group to write in news for inclusion in the next issue. They did indeed respond generously for the next issue.

This year with the change in editor, the mailing to alumni from the period 1955-59 went out in March and did not leave them much time in which to respond. Only a few did. Requests to the graduates of 1960-70 will go out early in 1991 and it is hoped that both they and the '55-59 group will respond in large numbers.

Walter W. Wharton, M.S. 1952, Ph.D. 1955, sent a resumé from which the following was taken. He is currently Director of the Propulsion Directorate in the Research, Development, and Engineering Center at Redstone Arsenal, AL. He has had over 35 years of experience in rocket, missile, and laser technology in grades GS-11 through GS-16 and is a charter member of the Senior Executive Service. His primary technical expertise is in the chemistry of propellants and associated components and the chemical engineering of propulsion systems. He has taught undergraduate and graduate courses in chemistry and undergraduate courses in physics, mathematics and chemical engineering at the University of Alabama in Huntsville.

He has conducted his personal research in the area of combustion fundamentals and their application to engine combustion instability problems. He has also gained experience in personnel recruiting, evaluation, and management through personal experience and serving on various personnel boards and job appointments. Recent and current work is directed to development of insensitive munitions.

He received the Department of the Army Research and Development Award in 1962, was a nominee for the AIAA Goddard Award in 1964, and received the MICOM Scientific and Engineering Award in 1980. He has published approximately 50 technical publications and received 10 patents.

Lewis B. Barnett, B.S. 1955, sent his curriculum vita, from which the following summary was culled. After graduation from the University of Kentucky, he attended the University of Iowa, where he received the M.S. (1957) and Ph.D. (1959) degrees in biochemistry. He was a postdoctoral fellow with Professor Alberty at the University of Wisconsin (1959-1961) and an advanced postdoctoral fellow with Professor Overbeek (1961-1963) at the State University of Utrecht in The Netherlands. In 1963 he joined the faculty of the Department of Biochemistry and Nutrition at Virginia Polytechnic Institute and State University, where he is now Associate Professor and, since 1984, Coordinator of Undergraduate Advising and Assistant Dean of the College of Arts and Sciences.

He has directed the graduate degree research of seven students and has a long list of publications and papers presented at professional meetings. He holds membership in a number of honorary societies: Phi Beta Kappa, Sigma Xi (science), Phi Lambda Upsilon (chemistry), Phi Mu Alpha (music) and Omicron Delta Kappa (leadership). He has served as advisor to many student groups (Biochemistry Club, Phi Lambda Upsilon, Campus Christian Life Committee, Duplicate Bridge Club, Omicron Delta Kappa, Mortar Board, and Pre-Vet Club). He has served on many committees and campus organizations and has held leadership positions in a number of them, including the presidencies of the Agriculture and Life Science Faculty Association, Phi Beta Kappa, Sigma Xi, local and state American Association of University Professors and the Faculty Senate.

In addition he has served as president of several PTA organizations, as chairman of the Blacksburg Planning Commission and as a member of the Blacksburg Town Council. He is married to Charlotte Alta Barnes Barnett and has four children.

Edward K. Martin, Jr., B.A. 1957. Since I received my A.B. degree in 1957 from UK, I went on to the University of Louisville Medical School and graduated in 1961. After that I spent two years in the U.S. Navy. Then I finished a residency in

anesthesiology at the UK Medical Center. Then I returned to Frankfort where I grew up. I have been here ever since. I am married to a girl from Midway and we have two daughters, aged 21 and 17.

I fondly recall my days at UK. I can vividly recall Dr. Charles Barkenbus lecturing on organic chemistry. It seemed he was always calling on me to answer a question and I recall I sat a couple of rows from the rear of the room. He always took roll of attendance before starting to lecture. I recall one day in the lab we were (I guess) making ether when all of a sudden a blue flame shot across the floor of the room. Dr. Barkenbus became quite excited as I recall. There was no harm done but it caused a bit of excitement.

I recall we had a textbook (I still have it) but we hardly ever used it since the exams came from his lectures. I never missed a lecture. I recall he never used any notes during his lectures. He must have really known the subject thoroughly. I recall reading about his death. I felt sad about that. I think he had a heart attack at a basketball game. I recall he loved UK basketball. He gave me two A's in his course. I was very proud of that since it was so demanding.

My teacher for physical chemistry was also excellent. I can't recall his name. I recall he was young—just left Oak Ridge to come to UK. We had about 10 students in the class, so we received a lot of individual attention. The tests were very hard I recall. The lab counted about 40% of the final grade. The test grades were so low he had to curve the grades. I recall I overslept on the day of the final exam. I got a phone call inquiring about where I was. I jumped up and hurried over to take the exam. I had been up most of the preceding night studying for the final. They waited until I arrived to begin the exam. He gave me an A. Dr. Wagner was my advisor. I had him in analytical chemistry. He was also an excellent teacher. Every chemistry teacher I had was excellent. They had a great department. I am sure it still is. It was smaller then — around 7,000 students at UK.

I recall taking music humanities under Dr. Prindl and how much time I spent listening to records. It was a two-hour course. It required a lot of out-of-class time — more than most courses that gave

greater academic credit.

I recall Dr. Riley's course in genetics. He was head of the Botany Department. He was a great teacher. He reminded me of Alfred Hitchcock.

I also recall studying with James King in the Music Department. As you know he became a member of the Metropolitan Opera and has been one of the leading Wagnerian tenors in the world. He directed the men's glee club when I was a student.

While I was a student at UK I sang tenor in Aimo Kivenimi's choir at First Presbyterian Church. He was in the Music Department at UK. I was paid \$2.50 per Sunday. They still owe me for a month's singing. I sing in the Episcopal Church choir in Frankfort. I sing an occasional solo which James King taught me.

I could go on and on, but this is what I remember about my days at UK. I think about my time at UK a lot. I guess it is a sign I am growing older to reflect on the past.

Harry L. Conley, B.S. 1957.

(Coincidentally, I have the job of editing the newsletter sent out by the Department of Chemistry at Murray State University, Murray, Kentucky.)

After graduation from UK in 1957, I received an M.S. degree in chemistry from the University of California at Berkeley and then a Ph.D. from the University of Virginia. From 1963 to 1968, I worked for Sprague Electric Company in North Adams, MA. Since 1968 I have been at Murray State University, Murray, KY. My main teaching duties have been in general and physical chemistry. My research interest has been in the kinetics of hydrolysis of organophosphate esters.

While there were a number of memorable experiences during my undergraduate days at UK, a few seem to be more significant than others. I remember working as a research assistant for Dr. Paul Sears in the dungeons of old Kastle Hall. Then there were the fun-filled meetings and activities of Alpha Chi Sigma. In Dr. Sears' advanced inorganic course we would be called upon at odd times to reproduce orally or on paper the entire periodic chart. In the same course we covered the entire textbook by Moeller. Well, Dr. Sears, things are tougher nowadays with elements like

unmillennium. I had analytical chemistry under Dr. Wagner who at first seemed awesome but really was a kind person and an excellent teacher. Finally, in thinking about these experiences, I cannot forget going over to the slop shop for coffee breaks.

Donald Trimmell, Ph.D. 1958. I attended the University of Kentucky from 1955 to 1958 as a graduate student and earned the Doctorate in Chemistry in June 1958. In the early years I was a teaching assistant and later did research under Dr. Walter T. Smith on "N-Sulfinyl Amines", which was the subject of my dissertation. One summer I worked under Dr. John M. Patterson studying the Hoffmann Degradation. A most fond memory involves induction into the Alpha Chi Sigma chemical fraternity and later becoming part of the ritual team.

After graduation I worked at Union Starch and Refining Co. in Granite City, IL for three years on the preparation of thick boiling starches. I married in 1960 to Lorabeth Downing at Windsor, MO. In 1961 we had our first child, Kimberly Ann.

In 1961 we moved to Peoria, IL where I became a chemist at the Northern

Regional Research Center of the U.S. Department of Agriculture. In 1964 we had our second child, Stacy. In 1965 I had a special opportunity to represent the University of Kentucky at founding ceremonies of Winston Churchill College near Pontiac, IL.

During the past 29 years at NRRC, I have worked on the utilization of starch for industrial uses. Initial work with starch xanthate led to uses of starch in paper and rubber. Much interesting chemistry relating to xanthates was published. About 15 years ago the interest turned to the use of starch for the encapsulation of pesticides. This evolved from chemical methods using the xanthate, to the current method using the twin-screw extruder. Currently we are preparing for celebrating the 50th anniversary of the founding of the laboratory this summer.

In 1983 our daughter Kim married Scott Schultz and last year we had our first grandchild, Justin Ryan.

I've lost track of most of my old buddies at UK. Dr. Robert T. Dowd was a good friend and lab-mate. He lived in Rhode Island and I lived at the time in New Jersey, so several times we drove home and back on vacations.

Liberal Arts, Science interface at forum with Harvard professor

Dr. William N. Lipscomb, Jr. of Harvard University recently spent two days at the University of Kentucky. On the afternoon of Friday, April 27, he participated in a forum on Science and the Liberal Arts — An Interface, which was sponsored by the University Studies Program of UK, an office that administers the new core curriculum. The program opened with a performance of The Brahms Trio in A minor by Dr. Lipscomb, clarinet, Roberta Guthrie, cello, and Samuel Hodges, piano. Dr. Lipscomb then delivered a lecture on "The Role of Science in a Liberal Arts Education".

His lively observation on the core curriculum at Harvard University and his description of the one-semester core course in chemistry that he originated and offered there for several years elicited responses from a panel of four UK professors, Joseph Brill from

Physics, Eric Christianson from History Brauch Fugate from Mathematics and Daniel Mason from Music, and from the audience.

The stimulating program was planned and executed by Drs. Bob Guthrie and Jim Holler of the Department of Chemistry. On Saturday, April 28 Dr. Lipscomb participated in the Regional Undergraduate Poster Competition described elsewhere.

Professor Lipscomb has been generous with his time to the University over the years. He grew up in Lexington, graduating from Picadome High School in 1937. He attended the University of Kentucky and in 1941 was awarded the B.S. degree in chemistry and the Sullivan Medallion. (Three Sullivan Medallions are awarded each year to a graduating man, a graduating woman and a non-

student "whose characteristics of heart, mind, and conduct evince a spirit of love for and helpfulness to other men and women.")

After Ph.D. research under Linus Pauling at California Institute of Technology he joined the faculty of the University of Minnesota in 1946. In 1959 he moved to Harvard, where he has been chairman and Abbott and James Lawrence Professor. Among his many honors are membership in the National Academy of Science and the Nobel Prize in chemistry in 1976.

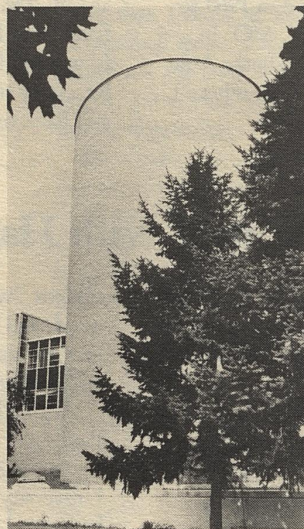
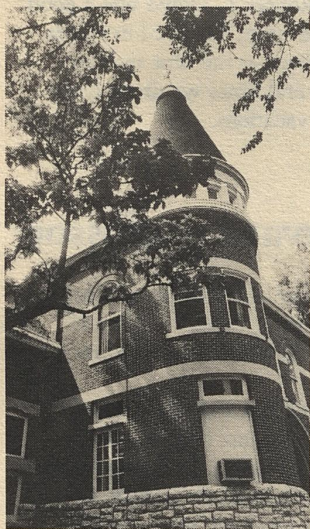
The University of Kentucky awarded him an honorary doctorate in 1963 and the Distinguished Alumni Centennial Award in 1965. Although he will retire from teaching at Harvard next year, he will continue to direct an active research program supported by his second consecutive five-year NIH Merit Award Grant.

CHEMISTRY

We've Come a Long Way...

We've come a long way from the medieval, circular stone tower of the Gillis Guilding, one of the original buildings, to the contemporary, circular brick cyclotron architecture of the present Chemistry-Physics Building. And students have progressed from the vested suits and Gibson-girl style of the turn of the century and the crewcuts and of the fifties of the test-tube age to the contemporary, comuter-oriented students of the 90s.

The Chemistry Department of the University of Kentucky learns from the past, achieves pace-setting progress in the present, and anticipates the future and the role it will play being on the cutting edge of tomorrow's technology.



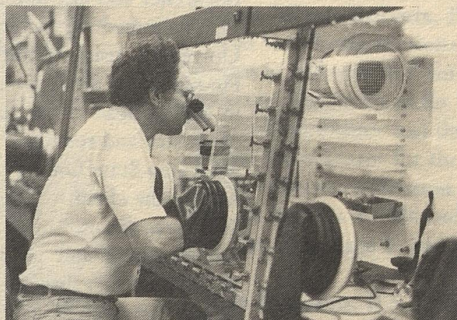
*A new generation of progress ...
From circular stone tower ... to circular brick cyclotron.*



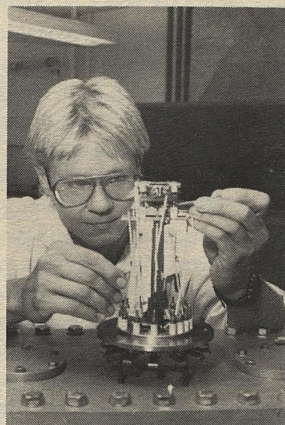
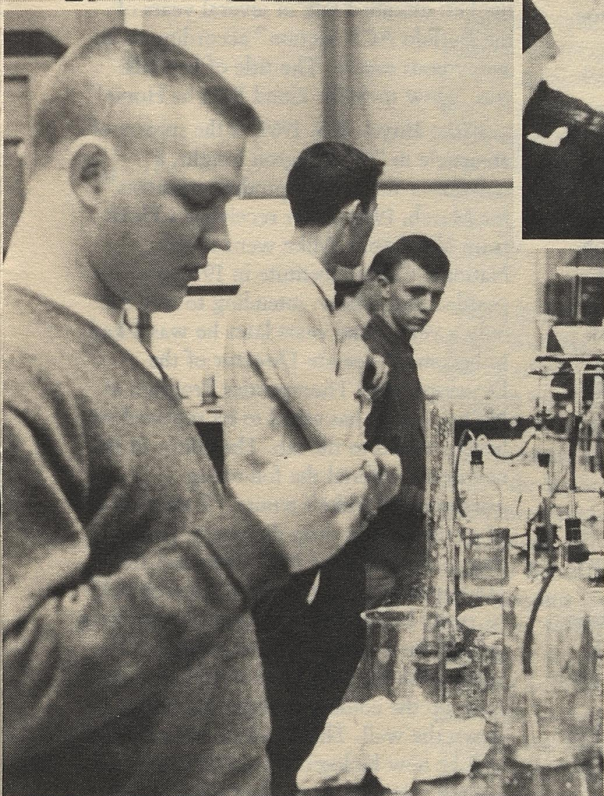
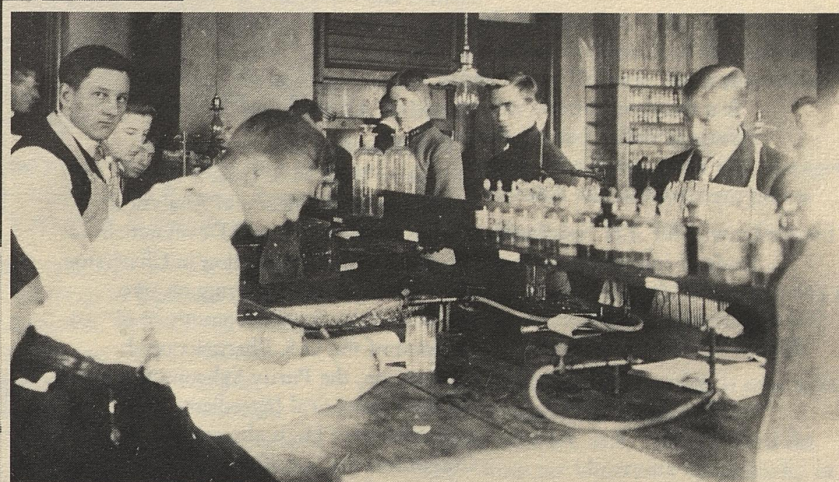
The first Chemistry Department was in the Gillis Building. This photo was presented to Archives by Professor Ralph N. Maxson showing "old chemistry in 1906 or 1907."

Chemistry in the fifties ... From crewcuts to computers.





Researcher studies sample in the protective environment provided by a glove box.



Student prepares instrument for analysis of samples.

Alumni News

Laurence Quill, Department Head 1942-45, died in February 1989. Dr. Quill received his Ph.D. degree in 1928 from the University of Illinois and stayed on as a researcher and instructor until 1934. In 1935 he joined the faculty at Ohio State University, rising to full professor in 1939. He moved to the University of Kentucky in 1942 as head of the department of chemistry and remained there until joining Michigan State University in 1945. He headed the chemistry department until 1961, was director of the division of mathematical and physical science, 1959-62, and the first director of the Institute of Water Research from 1962 until his retirement in 1966. An expert on the chemistry of rare earths, Quill served as a chemist and consultant to the U.S. atomic energy program's metallurgical project at the University of Chicago from 1942 until 1946. He was an assistant editor of **Chemical Abstracts** for 20 years.

Jack Fletcher, B.S. in Industrial Chemistry 1950, M.S. 1952, is a Development Scientist and Analytical Chemist in Research and Development for Union Carbide Corporation in Charleston, WV. He is presently serving on two subcommittees for the Committee of Revision of the U.S. Pharmacopeial Convention, the Purity Subcommittee and the Pharmaceutical Ingredients Subcommittee. He is also serving on the Committee for Specifications of ACS Reagent Chemicals. He represents Union Carbide on a Task Force on Analysis of Raw Materials (Ethanolamines) for Personal Care Products for nitrosamines, which will meet again in Brussels, Belgium. He plans to retire in spring 1990. He reports that he has a robot in his lab.

Richard C. Sheridan, M.S. 1961, retired in 1988 from the Chemical Research Branch of TVA's National Fertilizer Development Center in Muscle Shoals, AL with 29 years of service. Since retirement he has been a part-time instructor in the Department of Chemistry of the University of North Alabama. He presided over a symposium on the History of Fertilizer held during the national convention of the ACS in Miami Beach in September of 1989. He is the author of an article on "Fertilizer" in the recently published **Encyclopedia of Southern**

Culture. He is currently chairman-elect and program chairman of the Wilson Dam Section of the ACS. He first served in this capacity 18 years ago and is the first person of the section ever elected to a second term.

Judith Kay York Smith, B.A. 1966, after receiving the M.A.T. in Chemistry from Duke University, taught chemistry at the secondary level for 15 years and served as assistant principal for one and a half years. In July of 1989 she was named Coordinator of Science and Math for Durham County Schools, grades 9-12.

Jim Tanner, Ph.D. 1966, supervisory chemist, U.S. Food and Drug Administration, was honored "for exceptional contributions as a research chemist in the development and application of neutron activation as applied to food analysis; and for his work on nutritional and toxic elemental composition of foods and the development of reference materials that have contributed to regulations concerning the safety of the food supply."

Mary Frances Richardson, Ph.D. 1967, now at Brock University in Canada, "gave the best attended talk in several years of the Buffalo ACS Section" according to an anonymous source. The title of her talk was "How to Make Good Beer at Home".

Mike Boyd, B.S. 1969, is the subject of an article in "Washington Insight, a newsletter for natural product scientists" for March, 1990. After receiving a Ph.D. from Vanderbilt, Mike went to the National Cancer Institute in 1975 as a postdoctoral fellow, intending to stay for only a year. Nine years later he was asked to become Associate Director of the Developmental Therapeutics Program at NCI. Now he has asked to be replaced so he can return to the lab. The editor of the newsletter offered the following assessment of Mike's tenure. "I sense an air of excitement in drug discovery, partly due to the efforts of NCI's Michael Boyd. He stepped out on faith in a research field he really believes in, and from the ash heap rebuilt the natural products program. To accomplish this he had to clean house and open up the communications lines; he tore down the wall. The dividend from all this will be new biologically-active compounds; we may even learn about some next quarter."

Don Showalter, Ph.D. 1970, was featured in an article in Chemical and Engineering News on National Chemistry Week 1989. Don and several colleagues from the University of Wisconsin, Stevens Point, have brought their lively chemical demonstration show, titled "Yes Virginia, Chemistry Can Be Fun", throughout the country to much acclaim. The C. & E.N. article mentioned programs at American River College in Sacramento, CA for teachers, students and the general public, California State University, Hayward for teachers and at University of California, San Francisco, and Stanford University for the general public. They also performed on the east coast at Westchester Community College, at the New York Hall of Science and at St. John's University in New York. In May of 1988, they brought their show to Lexington for an ACS meeting. Don will be seen on the public television show "The World of Chemistry" with Roald Hoffmann of Cornell University, when the series airs in 1991.

Barbara Slater Barnes, B.S. 1971, is a research chemist at the Forensic Research Center of the FDA in Cincinnati.

James Swan, B.S. 1976, is now an assistant professor at Bucknell University in Lewisburg, PA. He received the Ph.D. from Pennsylvania State University, working under Professor Gordon Hamilton, and worked for Scientific Systems in State College, PA for several years before joining the faculty at Bucknell.

Dan and Jane Goodin, both M.S. 1979 write: Although we have been away on several offsite assignments, we are still living in the San Diego Area (Del Mar, CA) and love the climate. Jane is now a Staff Scientist at S-Cubed in San Diego where she holds the position of Quality Assurance Specialist in the Environmental Technology Group. Dan is still with General Atomics in La Jolla where he is a Staff Scientist involved with defense programs. In 1985, we stayed for six months at the KFA Juelich research institute in West Germany, near Cologne, and even learned to speak a little German. In 1987, Dan accepted a one-year assignment to Oak Ridge National Laboratory working with high

temperature materials. Jane also worked as an employee of the lab while there and was involved with Quality Assurance for defense plants. During this assignment, our first child, Annika Allen Eldred Goodin was born on July 28 in Knoxville, TN.

Susan Wyatt Roberts, B.A. 1980, has worked for Martin Marietta Energy Systems in Paducah, KY for two and a half years. She serves as the Measurements Control Coordinator and the Calibration Control Coordinator for the Quality and Technical Services Division. She married William Roberts in 1984 and they have two sons, Evan (age 3) and Zachary (age 2).

Stan Simpson, B.S. 1980, Ph.D. 1987, completed his postdoctoral work at the University of Utah and joined Dow Chemical, USA.

Keith Friley, B.A. 1980, has been named technical director of the Ashland Carbon Fibers Division. He is responsible for quality control, research and development and technical service activities for the division. He was manager of the research and development group.

Jim Huckaby, B.S. 1981, was featured in an article in Communi-K about graduate student research. He is pursuing a doctorate in chemical engineering at UK and hopes to finish his research this fall.

Tim Hossain, Ph.D. 1982, is now with Texas Instruments Inc. in Dallas.

Jean Stewart, B.S. 1982, received the M.D. from the University of Kentucky in 1986. She completed a residency in Internal Medicine in 1989 and married Roger Sutherland in March of 1989. She is now employed as a staff physician at the VA Hospital in Lexington.

Robert Dorzback, B.A. 1984, is presently the Emergency Response Engineer for the Louisville and Jefferson County Metropolitan Sewer District with responsibilities for supervising personnel who monitor for pollutants in industrial discharge to sewers, responding to hazardous material releases and verifying their containment and cleanup, training agency and other industrial personnel about hazardous materials and emergency spill response, and working with other emergency response agency and industrial representatives on various environmental regulatory committees.

Anthony Harris, B.A. 1984, was awarded the Doctor of Optometry from the University of Alabama-Birmingham in 1988. He is currently practicing with Dr. Bizer and Associates in Louisville.

Jeffrey Hord, B.A. 1985, received the M.D. from the UK College of Medicine in May 1989. He then began a three-year pediatric residency at Columbus Children's Hospital, which is affiliated with Ohio State University.

H. Morita, postdoc 1985-87, is Professor at Toyama University in Toyama, Japan.

Stewart Richardson, postdoc 1985-87, is Research Scientist at Smith, Kline and French in England.

Teresa S. Sullivan, B.S. 1986, is a doctoral student in Pharmacology at Vanderbilt University. She recently passed the written and oral qualifying exams and is currently beginning work on her research, which involves the mechanism of arterial smooth muscle contraction.

Diane Vance, Ph.D. 1986, is now with Westinghouse Savannah River Co. in Aiken, SC. Her husband John is also employed there.

A. Demir, postdoc 1986 and 1989, is Associate Professor at Middle East Technical University in Ankara, Turkey and currently is on leave in West Germany.

Subbash Khari, Ph.D. 1987, has taken a job with Abbot Laboratories in North Chicago.

Mark Sabol, Ph.D. 1987, is a Research Scientist at Dow Chemical Company in California.

N.-E Slougui, postdoc 1987-88, is Assistant Professor at the University of Constantine in Algeria.

K. Kawada, postdoc 1987-89, returned to his position as Research Scientist at Shionogi Pharmaceutical Company in Japan.

N. Imai, postdoc 1987-89, is a Postdoctoral Fellow at Harvard University.

Stefan Kwiatkowski, postdoc 1987-89, returned to his position as Associate Professor at Warsaw Technical University in Poland.

Evan Ekman, B.A. 1988, received a \$1000 scholarship from the Student Government Association at UK to help fund his education in the College of

Medicine here. He has been vice-president of his class in medical school and a member of the Student Development Council. In addition to his outstanding academic record as an undergraduate, he received a varsity letter in swimming.

Fred Yonke, B.S. 1988, died in February, 1990 of liver cancer. Fred had been a graduate student in the Chemistry Department at UK since the Spring of 1989.

Ganesan Vaidyanathan, Ph.D. 1988, is a Postdoctoral Fellow in the Department of Radiology at the Duke University Medical Center.

Benny G. Johnson, B.S. 1989, won the \$2000 Semen Award given by Kent State University for his paper "Computer Elucidation of Reaction Mechanisms", research conducted under the direction of Paul Corio. Benny is now in the graduate program at Carnegie-Mellon University working with John Pople.

Ray Gross, Ph.D. 1989, is a Research Scientist at Merrill-Dow in Cincinnati and completing a postdoctoral position at Indiana University.

Greg Simpson, B.S. 1990, received an NSF Honorable Mention in the 1990 NSF graduate Fellowship awards. There were 850 winners and 1986 honorable mentions for the whole country in science, engineering, and some social science disciplines. Greg will enter the graduate program at the University of California, Berkeley in the fall.

Ashok Chavan, Ph.D. 1990, is a Postdoctoral Fellow in Biochemistry at UK.

News from Faculty and Staff

Jeff Appling's group expanded in the summer of 1989 to include Dr. Alan Goren from Transylvania University, who was supported as a Research Fellow from the Petroleum Research Fund. Dr. Goren will join the group again this summer supported by a grant from EPSCoR. Dr. Goren and Jeff's graduate student, Peggy Fenwick, will accompany him to the upcoming Gordon Research Conference on Multiphoton Processes where they will present a poster on their research on sulfur dioxide photodissociation. Jeff will again help entertain the conferees as a member of the "Multiphoton Blues Band," in which he plays electric bass. Jeff is responsible for the Summer Undergraduate Research Program that was funded by the NSF for the next three years, with supplementary funds from the UK Faculty Scholars Program. With these funds 13 undergraduates will come to our department from colleges and universities in Kentucky and all eight border states. These students will reside on campus for eight weeks and work on research problems in the labs of faculty members. They will return next spring to participate in our undergraduate research poster competition.

Leonidas Bachas presented papers at the 1989 Pittsburgh Conference, ACS National Meetings in Dallas and Miami Beach, Second International Bioanalytical Workshop in Lawrence, KS, FACSS in Chicago and the International Chemical Congress of Pacific Basin Societies in Honolulu. He is Councilor for the Lexington Section of the ACS and a member of the Archives Committee of the American Association for Clinical Chemistry. Leonidas is the principal investigator and director of a program entitled "Undergraduate Research Experiences in Membrane Sciences at the University of Kentucky" funded by the Division of Material Research of the National Science Foundation. He is also the recipient of an NIH-FIRST award, a Society for Analytical Chemists of Pittsburgh award, a Biomedical Research Support Grant (NIH) and of a NATO grant that supports his on-going collaboration with scientists of the Universitat Autònoma de Barcelona, Spain.

Carol Brock presented papers at meetings of the American Crystallographic Association in Seattle in July 1989 and New Orleans in April 1990 and at a meeting of the Swiss Crystallographic Society and Swiss Chemical Society in March 1990. She has been elected one of the four U.S. delegates to the 15th General Assembly of the International Union of Crystallography Congress, which will be held in Bordeaux, France during 19-28 July 1990 in conjunction with the scientific sessions of the Congress.

Allan Butterfield presented an invited plenary lecture on "Spin Labeling Studies of Membranes" at the International Symposium on Spin Trapping and Aminoxyl Radical Chemistry in Guelph, Ontario. Allan organized a symposium on the UK Center of Membrane Sciences for the Kentucky Academy of Science held in Lexington. He also organized the symposium "Frontier Research in Biological and Synthetic Membranes" for the International Conference on Membranes in Chicago in August 1990. Allan was the keynote speaker at the "Symposium on Modern Methods in Molecular and

Cellular Biology" at the Indiana University School of Medicine where he presented a lecture entitled "Biophysical and Biochemical Investigations of Transmembrane Signaling". He will present a paper at the International Conference on Alzheimer's Disease in Toronto in July 1990 and he presented an invited paper at the symposium on "Biological Separations" at the ACS meeting in Boston in April 1990. Allan is a member of the editorial board of the Journal of Membrane Science, Vice Chairman of the Lexington Section of the ACS, Chairman-elect of the section for 1990-91, and Director of the Center of Membrane Sciences at UK. His research is supported by two current NSF grants. His first book "Biological and Synthetic Membranes", published by Alan R. Liss, Inc., has received excellent reviews in important membrane journals. Marci, Allan's wife, is pursuing a four-year course in Education for Ministry and is still working as a registered nurse at Cardinal Hill Hospital. His daughter, Nyasha, is a sophomore at the University of Maine majoring in child psychology and early childhood development. Last summer the whole family sailed off the Maine coast for a week on a 93-foot windjammer, "The Mary Day".

Dennis Clouthier and members of his group presented papers at the Molecular Spectroscopy Symposium in Columbus, OH in June 1989. Dennis received grants from the DOE for a one-year study of the spectroscopy of organic sulfur compounds and from the NSF for a three-year project entitled "Pyrolysis Jet Spectroscopy and Dynamics of Transient Species". Jim Dunlop, Dennis' first Ph.D. student, graduated in the fall of 1989 and joined Terry Miller's laboratory at Ohio State University as a postdoc. The summer of 1989 was a busy time in the Clouthier laboratory. Dr. Richard Judge from the University of Wisconsin-Parkside and Dr. David Moule from Brock University in Canada spent most of the summer at UK, working in the laser chemistry laboratory on collaborative projects. Recently two postdoctoral research associates have joined the group. Dennis and his wife Debbie had their first child, Erin Ann, on May 31, 1989.

Paul Corio attended the Gibbs Symposium at Yale University in May 1989. He was the keynote speaker at the Southeast Regional Meeting for undergraduate research in April 1989. He presented a paper at the Southeast Regional Meeting of the ACS in Winston-Salem in October 1989 and a seminar at Virginia Polytechnic Institute in March 1989. Paul obtained a copyright (jointly with Benny G. Johnson) for a computer program to determine reaction mechanisms.

Bill Ehmman and Bill Markesbery of Neurology were granted a five-year extension of funding for their research on Alzheimer's disease. Bill presented papers at the International Conference on Nuclear Methods in the Life Sciences in April 1989 in Gaithersburg, MD, at the Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies in October 1989 in Chicago and at the Winter Meeting of the American Nuclear Society in November 1989 in San Francisco. He also attended the International Conference on Analytical Chemistry in Nuclear Technology in Karlsruhe,

West Germany in June, 1989 and visited the IAEA laboratories in Vienna. He attended a workshop on Laser Microprobe Mass Spectrometry in July in Asheville, NC. Bill's wife, Nancy, has continued in her volunteer role as coordinator of the Lexington Meals on Wheels program. Both spend a few weekends fishing in North Carolina.

Charles H. H. Griffith has completed 26 years as the General Chemistry Laboratory Supervisor. He is past his 65th birthday, but intends to continue the position for several more years. His wife, Gloria, intends to retire soon from her position as a Business-Office instructor at the area vocational school which will become a state college soon. He is still a member of the Committee of 101, and has ushered all University of Kentucky home football and basketball games since 1977. His four grandchildren keep him busy, especially the five-year old twin boys, since he is their principal babysitter. Daughter, Susan, is an M.D. at the Family Medical Center at UK, and daughter, Diane, is an R.D. at Central Baptist Hospital.

Tom Guarr's group presented three papers at the ACS National Meeting in Miami Beach in September 1989, and two at the Kentucky Academy of Science Meeting. In 1990 he presented an invited paper at the International Electrochemical Society Meeting on the properties of a new class of conducting polymers that his group has discovered. He holds a grant from the American Philosophical Society and is currently working on two patent applications for an electrochromic display device and for modified electrodes for the electrocatalytic oxidation or reduction of organic substrates. His son, Joseph (now 4), is well on his way to becoming a star football player.

Bob Guthrie published a paper in late fall with Bill Jencks of Brandeis University in Accounts of Chemical Research, which promoted the new IUPAC system of nomenclature for reaction mechanisms. This has drawn some fire from George Olah in that journal, provoking a counterattack by Jencks and by Guthrie, published in the same issue. There will apparently be a debate on the virtues of the new system at the Reaction Mechanisms Conference this summer. On the research front, Bob has received several small grants, one from the Biomedical Research Support Grant Committee for a project titled "Radical Anions and Radiotherapy" and another from the Kentucky Water Resources Institute for "Use of High Energy Radiation Sources for Degradation of Environmental Pollutants". Bob has been traveling to the Center for Fast Kinetics Research in Austin, TX to do pulse radiolysis studies in connection with this research. Bob was co-author on a paper presented at the spring '90 ACS Meeting in Boston and presented a seminar at Indiana University-Purdue University in Indianapolis. He will attend the Gordon Conference on Radical Ions this summer in Wolfeboro, MA.

Jim Holler has published a new book, the fifth edition of "Analytical Chemistry; An Introduction" with D.A. Skoog and D.M. West, published by Saunders College Publishing. Jim has taught an ACS Short Course entitled "Electronics and Instrumentation for Chemists" at the Dallas ACS

meeting and Pittsburg Conference in 1989. He also presented a paper at the 1980 Pittsburg Conference.

Bob Kiser continues as Director of the Mass Spectrometry Center while also serving as Director of General Chemistry. He presented a paper on "Artificial Intelligence in Mass Spectrometry" at the 37th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics at Miami Beach, FL, 21-26 May 1989. In the early summer he and his wife, Barbara, enjoyed a two-week tour of Ireland, Scotland, Wales and England. Also, during the summer of 1989 he oversaw the commercial publication of the department's General Chemistry Laboratory Manual (Ginn Press). The royalties from this venture are used solely for a substantial General Chemistry Excellence Award that honors the top student in General Chemistry in each of the fall and spring semesters. In October he participated in and represented the University of Kentucky at the 106th Two-Year College Chemistry Conference, held at UK's Jefferson Community College in Louisville. Just prior to triple by-pass surgery in late November, he was honored by the Kentucky Academy of Science with the award of "Outstanding Science Teacher at the College-University Level - 1989." In the spring of 1990 he studied the possible use of partial-credit multiple-choice examinations for use in General Chemistry. Beginning with the fall semester of 1990 such partial-credit examinations will become routine in the General Chemistry program. In early April he participated in the important discussions of "The Freshman Year in Science and Engineering" under the auspices of The Alliance for Undergraduate Education (a consortium of major research universities) at Ann Arbor, MI. And he plans to attend the 38th annual meeting of the American Society for Mass Spectrometry in Tucson, AZ in June.

Rob Lodder reports the award of grants from Bran+Luebbe Analyzing Technologies and from the Medical Center and the Computational Center at UK. Two patents have resulted from his work on analyzing intact capsules and tablets by near-infrared reflectance spectrometry. He presented papers at a Symposium on Advances in Near-Infrared Spectrometry in Lexington in April 1990, at the Pittsburgh Conference on Analytical Chemistry in New York in March 1990 and in Atlanta 1989, at the Midwest Regional Meeting of the American Association of Pharmaceutical Sciences in Chicago in May 1989, at the Annual Speakeasy Computing Conference in Chicago in August 1989 and at the Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies in Chicago in October 1989. Rob gave seminars at the Upjohn Company and at Eastman Kodak Company (titled "The Beauty of the BEAST") in early 1989.

Wilbur Mateyka retired from the Chemistry Department after 25 years as glassblower. He is still in Lexington with a management position at Projectron Inc., a division of Hughes Aircraft. He can still be seen occasionally prowling the halls at night in the Chemistry Building. A reception was held in his honor in August 1989. **Homer Grimes**, who was stores supervisor from 1955 through 1981, and **Glenn Ellis**, storekeeper from 1967-1973 and currently in charge of the Parking Department at

UK, were in attendance. Wib's replacement is **Jeff Babbitt**, who was formerly in charge of the glass shop at the University of Michigan.

Jim O'Reilly is now both Associate Chairman and Director of Graduate Studies of the Chemistry Department.

John Richard has spent another year tracking down the pathways for reactions of organic molecules. He presented a paper during the summer of 1989 at the European Symposium on Organic Reactivity in Padua. His postdoc, Tina Amyes, also presented a paper on work done in collaboration with John. Later in the fall John participated in a workshop on the Microscale Laboratory Course for Organic Chemistry at the Kentucky Academy of Sciences. In this workshop John discussed his work to convert the organic labs at UK to the microscale program. John also presented papers at a meeting of the American Chemical Society, at a National Science Foundation workshop on organic reactivity and at a Gordon Conference on Physical Organic Chemistry.

Don Sands left his position as Vice Chancellor for Academic Affairs and, beginning in October 1989, took a leave of absence from UK to join the National Science Foundation. His title is Section Head, Networking and Teacher Preparation Section, Division of Teacher Preparation and Enhancement, Directorate for Science and Engineering Education.

Jack Selegue's research continues to be supported by the Department of Energy and the NSF EPSCoR Program. He gave invited talks at the Tri-State Catalyst Club Symposium in Lexington, Minisymposium on Chemical Catalysts in Louisville, UK Materials Science Workshop, ACS Southeast Regional Meeting, University of Utah, Utah State University, Marshall University, and University of Toledo, and contributed papers at the Gordon Research Conference on Organometallic Chemistry and Kentucky Academy of Science Annual Meeting. Jack is host for the NSF Organometallic Chemistry Workshop in Lexington in May 1990. He was re-elected alternate councilor for the Lexington Section of the ACS. Jack's wife, Edith, and son, Paul, now 2.5 years old, accompanied him on the Utah trip in June 1989. They visited Yellowstone National Park, Corvallis and the Pacific coast of Oregon, and several zoos along the way.

Stan Smith, who is Professor of both Chemistry and Radiology, was featured with Dr. Steve Nissen, Associate Professor of Cardiology, in a half-hour documentary about innovative new developments in the Markey Cancer Center, particularly in the new Magnetic Resonance Imaging and Spectroscopy Center.

Tom Smith is on sabbatical leave during the spring semester 1990. He is spending the first part of the semester at Indiana University where he is renewing acquaintances with old professors and new ones, attending seminars and writing up papers. Later in the semester he and his wife will go to Europe where he will visit European chemistry departments. In the fall of 1989 he attended the FACSS meeting in Chicago. Last summer his travels included Florida, Maine, Nova Scotia, Prince Edward Island, a fishing trip in Minnesota, and a circuitous trip to the Grand Canyon, which included an Amtrak ride from New Orleans to Tucson.

Dave Watt presented papers at the Joint Meeting of the American Society for Cell Biology and the American Society for Biochemistry and Molecular Biology in San Francisco in January 1989, Winter Prostaglandin Conference in Keystone, CO in January 1989, Annual Meeting of the Society of Toxicology in Atlanta in February 1989, Congress of the World Equine Veterinary Association in Essen West Germany in April 1989, FASEB Summer Research Conference on Calcium and Cell Function in Saxton's River, VT in July 1989, International Meeting on Organic Geochemistry in Paris, France in September 1989, 13th International Conference on Isoprenoids in Poznan, Poland in October 1989, and at a national meeting, "Kimya 1989", in Kusadasi, Turkey in October 1989. Dave gave seminars at the University of Texas Southwestern Medical Center (March 1989), Murray State University (August 1989), Universite Pierre et Marie Curie in Paris, Ecole Normale Supérieure in Paris, Institut de Chimie des Substances Naturelles, CRNS, in Gif-sur-Yvette, Ecole Polytechnique in Palaiseau, Roussel-UCLAF Research Center in Romainville (all in France in September 1989), Middle East Technical University in Ankara, Turkey (November 1989), Vanderbilt University (November 1989), Fisk University (January 1990) and Department of Biochemistry at UK (February 1990). He received grants from NSF, Chevron Oil Field Research Company, Kentucky Equine Drug Council, and NIH.

Steve Yates has been on a year-long sabbatical leave at the Lawrence Livermore National Laboratory in California working in the Nuclear Chemistry Division. His research has focused on studies of superdeformed nuclei and the search for shape isomerism in heavy nuclei. In addition to experiments at LLNL, Steve has performed much of his work at the Lawrence Berkeley Laboratory. He presented an invited talk at the ACS meeting in Miami Beach in September 1989 at a Symposium on Exotic Nuclei and gave papers at the annual meeting of the Division of Nuclear Physics of the American Physical Division at Asilomar, California and the ACS meeting in Boston in April 1990. Steve is the co-organizer of a symposium on "Education in the Nuclear Sciences: Successful Approaches and New Directions" to be held in August 1990 at the Washington, DC ACS meeting. He has been invited to give a special presentation at the International Symposium on Capture Gamma-ray Spectroscopy and Related Topics at Asilomar in October 1990 and will serve on the program committee for this conference. He is the co-author of another ten abstracts that are being presented by his colleagues at various meetings. An NSF grant to Steve and Dr. Gabor Molnar of the Institute of Isotopes of the Hungarian Academy of Sciences in Budapest will provide travel funds for Steve and his students to Budapest and living expenses for visiting Hungarian scientists at UK. The NSF has also funded Steve's research with Mark McEllistrem and Jesse Weil of the physics department. In January 1990, Steve became Vice-chairman Elect of the Division of Nuclear Chemistry and Technology of the ACS. In 1991 he will become Vice Chairman and Chairman in 1992 with responsibility for the division's activities. Steve was very recently appointed as the nuclear chemistry representative to the Nuclear Science Advisory Committee.

Student Awards

Undergraduate Awards 1989-90

Merck Index Award for scholastic achievement in chemistry

Neil Scheurich, 1990
Melissa Johnson, 1989

Undergraduate Award in Analytical Chemistry — subscription to the Journal of Analytical Chemistry

John Eastone, 1990
Greg Simpson, 1989

Undergraduate Service Award for service to the Chemistry Department —\$50

Mary Hansen, 1990
Gina Calhoun, 1989

A.J. Whitehouse Award from the College of Arts and Sciences to a premedical student who has displayed academic excellence in the natural sciences — \$100

David Thomas Miller, 1990

American Institute of Chemists Award for scholastic achievement, leadership ability and character — membership in the AIC

Robert Simon, 1990
Hannah Chow, 1989

Willard Riggs Meredith Award to the outstanding senior in chemistry — \$100

Cathy Mitchell, 1990
Greg Simpson, 1990
Benny Johnson, 1989

Stephen Harris Cook Undergraduate Summer Research Fellowship — \$800

Greg Simpson, 1989

CRC Handbook Award to the outstanding freshman chemistry major

Cammual Dylan Suttor, 1990
Saiyid Hasan, 1989

General Chemistry Excellence Award to the student with the highest score in general chemistry each semester — \$500

Hasibur Rahman, Spring 1990
Marshall G. Blevins, Fall 1989

Departmental Honors in Chemistry at Commencement:

1990: Kevin Dunn, Gina Fletcher, Jill Jones, Bobby Saggi, Robert Simon, Greg Simpson, Michael Stathis

1989: Benny Johnson, Hannah Chow, Melissa Johnson, Michael Huang

Gaines Fellowship: Neil Scheurich

Singletary Scholars: Neil Scheurich and Alan Wang

Phi Beta Kappa: Neil Scheurich and Waleed Qaisi

Graduate Awards

Outstanding Teaching Assistant Award —\$500

Paul Yeary, 1990
Alyne MacLean, 1989

100% Plus Award — \$500

Alyne MacLean, 1990
Kevin Frank, 1989

Graduate Student Research Award —\$500

Yigang Fu, 1990
Donna Palmieri and James Dunlop,

1989 Thomas B. Nantz Memorial

Scholarships — tuition scholarship

Michal Heine and Xueqing Zhao,

1990 Peter Crocker and Michal Heine,

1989 Ashland Oil Foundation Summer

Research Fellowships — \$1600

1990: Alyne MacLean, Paul Yeary, Robert Yoblinski

1989: Timothy Blair, Peter Crocker, Peggy Fenwick, Andrew Schneider

Graduate School Academic Excellence In-State Tuition Scholarship

Peter Crocker, 1990
Lee Johnson, 1989

Graduate School Open-Competition Academic Year Fellowship — \$8000 plus tuition

Alyne MacLean, 1990

Graduate School Allocated Academic Year Fellowship

Peter Crocker, Spring 1991
Mark Lovell, Fall 1990
Lee Johnson, 1989

Graduate School Dissertation Year Fellowship

Rongguang Lin, 1990

Title III Surface Mining Act Fellowship
Peggy Fenwick, 1989

Graduate Degrees

Doctoral Degrees

1990: Ashok Chavan (Watt)
James Dunlop (Clouthier)
Steven Engh (Holler)
Nurul Islam (Tolbert)
Donna Palmieri (Butterfield)
Kim Woodrum (Niedenzu)
Bruce Young (Selegue)
1989: Raymond Gross (Watt)
Azwarsamy Jeganathan (Watt)
David Wenstrup (Ehmann)
Joseph Wyse (Butterfield)

Masters Degrees

1990: Thea Kjellstrom (Bachas)
Venkatram Shastri (Smith)
Fang Fang Wu (Guthrie)
1989: Edward Barnes (Smith)
Michael Bucknum (Companion)
Rita Hardy (Kiser)
Hyun Lee (Watt)
Michael Rutherford (Holler and Clouthier)
Sandra Umhauer (Butterfield)

Obituaries

Ellwood M. Hammaker, retired Professor of Chemistry, died at his home on February 8, 1990. Woody, as he was known around the University, had been ill for some time, but remained active to the end. Never one to drive when he could walk, Woody had been seen striding towards campus just a week or so before his death.

Woody Hammaker was born in Lansdowne, PA in 1912. He majored in chemistry at Haverford College,

graduating in 1934. He then went on to earn the Ph.D. degree from Rutgers University in 1940; his dissertation was titled "The Coprecipitation of Nitrate and Nitrite Ions by Barium Sulfate". After several wartime jobs in industry, Woody returned to Rutgers as a faculty member in 1945. In 1951 he came to the University of Kentucky as an Associate Professor and was promoted to Professor in 1959. He retired at the end of the 1977 spring semester.

Woody's specialty was analytical chemistry, and he shepherded generations of sophomore CHE 226 students through titrations and complicated equilibrium problems. He published eight papers on a variety of analytical problems in journals including **Analytical Chemistry** and the **Journal of the American Chemical Society**. One of these articles reported the undergraduate research of Ralph N. Adams (B.S., Rutgers, 1950), who went on to become a well known analytical chemist.

From 1956-59 Woody was a Visiting Professor at the University of Indonesia working under a U.S. government contract. By the end of his three years in Jakarta, Woody had become the Director of the team from the University of Kentucky.

Woody served as Assistant Chairman of the Chemistry Department from 1965-77. His concern for students was legendary, as was his very tidy office. Faculty members

coming to him for information were amazed to discover that he could nearly always extract the appropriate document from the top left-hand drawer of his desk.

After he retired, Woody and his wife, Evelyn, took part in the Donovan Scholars program on campus and went on long freighter trips. Woody continued these activities after Evelyn died in 1985, but it was clear that he missed her company. Woody took his last, and perhaps most adventuresome, cruise during the summer of 1989; the freighter went through the Mediterranean Sea and Suez Canal in the summer heat, and visited a port in Ethiopia, one of the poorest countries on earth. After he returned, Woody, always the teacher, told wonderful stories of the things and people he had seen.

Those of us who knew Woody will never forget his calm and sense of order, his great respect for others, his lanky frame, and his very understated sense of humor. He was truly one of a kind.

Merle Dean Pattengill, a faculty member in the Physical Chemistry Division, died on May 24, 1989. Merle fought his illness for more than a year with humor and determination, and lived longer and better than his doctors believed possible.

Merle was born in 1942 in McPherson, KS, a small city 50 miles north of Wichita. After earning a B.S. at the University of Kansas in 1964, he went on to the University of California at Irvine, where his Ph.D. thesis concerned the theory of gas-phase reactions. Two postdoctoral appointments followed: the first with R.B. Bernstein at the University of Wisconsin, and the second with J.C. Polanyi at the University of Toronto. Merle joined the Chemistry Department at the University of Kentucky in 1973 and rose through the ranks to become Professor in 1987.

Merle was awarded a prestigious John Simon Guggenheim Memorial Fellowship in 1985 that allowed him to spend a sabbatical year at Stanford University working with R.N. Zare. The active collaboration that developed with Zare and scientists at the NASA Ames Research Center continued until Merle's death. Their work on aerobraking was described on the science page of the Louisville Courier Journal in July of 1986.

Merle published about 35 papers, mostly in the field of reaction dynamics. He could be passionate about science, and was particularly skeptical about the theory that discusses activated complexes. His approach was painstaking and thorough, and his writing clear and concise.

Despite his success in research, Merle's first commitment was to teaching, especially at the freshman level. He reviewed textbooks and worried about pedagogical matters. He never went into class unprepared and always left his door open. He delighted in meeting former students who had gone on to graduate or professional school.

Around the department Merle was known for his wit. He always had a funny story, an atrocious pun, or a pungent observation to share. He loved politics, probably because it provided him with so many amusing anecdotes. Merle's childhood among the Kansas wheatfields had left him wary of fancy talk, and he did his best to combat overblown rhetoric and all other forms of pomposity. Humor was his best weapon.

Merle is survived by his wife, Liz, and daughter, Mary. His many friends in the Chemistry Department wish that he could have stayed with us longer.

C.P. Brock

Information Please

Name _____

Degree and Year _____

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

_____ ZIP _____

Your present position or title _____

Organization _____

Degrees received from other institutions after leaving U K _____

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

Features you would like to see in the next ChemNews _____

Please return to: Dr. Joseph W. Wilson
Department of Chemistry
University of Kentucky
Lexington, Kentucky 40506-0055

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

ADDRESS CORRECTION REQUESTED

Return postage guaranteed

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

