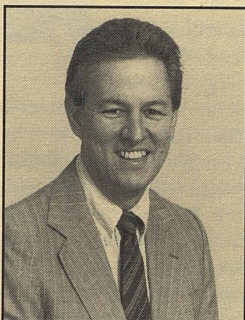


chemNEWS

MESSAGE FROM THE NEW CHAIRMAN



Bob Guthrie

Actually it would be more accurate to describe me as a "used" rather than a "new" chairman, but "Message from the Used Chairman" could easily be misinterpreted. Four years of relative insulation from the wear and tear of leadership, so admirably endured by Professor Watt, have apparently produced some softening of my brain as evidenced

by the fact that I have signed on for a second term. The Dean and I have agreed that this should last only until such time as one of our "newer models" is ready to take over. I am hoping that this will mean a term of only one or two years for me.

Our departing chairman, Dave Watt, has accepted the job of Vice Chancellor for Research for the Lexington Campus. Although we hate to lose our leader, we will undoubtedly benefit indirectly as Dave provides the entire Lexington Campus with the same inspired leadership he has given to us. As it has turned out, the University has also hired a chemist, Professor Linda J. (Lee) Magid, formerly of the University of Tennessee, as Vice President for Research and she will formally become a member of our department. With so many chemists in positions of influence, how can we lose?

Happily, Jim O'Reilly and Bob Kiser have agreed to remain in their present offices, Jim as Director of Graduate Studies and Associate Chair and Bob as Director of General Chemistry. As a result of Jim's magnificent job of recruiting last year, we welcomed about 20 new graduate students to the department in the fall. This, to the best of my recollection is an all-time record for our department. General Chemistry has also undergone a number of changes. Under Bob's firm but creative leadership General Chemistry is starting to become more tolerable for students (some even enjoy it), despite the fact that it is not getting any easier. Bob has hired a new laboratory supervisor to replace the retiring Charlie Griffith (not that Charlie - a true original - could ever be replaced). The new supervisor, Dr. Penny O'Connor, took over this fall and has impressed us all with her enthusiasm and dedication.

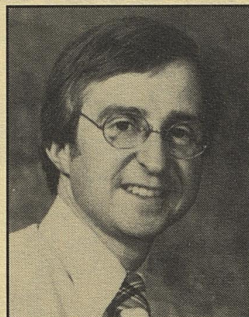
In my opinion, the department's most important task for the next few years will be filling our open faculty lines. One of these is a result of our department's having impressed the Chancellor with our "Innovation and Excellence" proposal to build on existing strengths in the area of "materials research". This is an expansion position to be filled by an individual with an interest in the synthesis of materials having unusual electrical properties (for example, superconductors). We have interviewed several candidates so far this year and should be making an offer soon. The other two positions are those to be vacated by the retirement of Professors Walter T. Smith and Kurt Niedenzu. Because of the current budget crunch, we may have to wait a while to fill them.

The next couple of years are going to be a bit rough for the University. The legislature has cut our budget for the current year and we will carry over this reduced base into next year. On the plus side, because of last year's tax increase, the Commonwealth is in a bit stronger financial condition than many states, including some of our usually wealthier neighbors. However, state budget problems are still quite serious. So far there has been no talk of layoffs. Faculty salaries have been creeping up on those offered by our benchmark institutions, so that even if raises are small for next year, we should be able to weather the storm. The Behrman endowment and its resulting Tuttle Fellowships continue to make us reasonably competitive in the battle to attract good graduate students and there seem to be more of them available because of the troubled economy. Hopefully when the economy picks up, we will be positioned to resume our growth.

WATT: GREAT TEACHER, VICE CHANCELLOR

Although Dave Watt gave up one title, Chairman of the Department of Chemistry, he has gained two new ones. In April he was named Great Teacher by the UK Alumni Association and in May he was appointed to the position of Vice Chancellor for Research on the Lexington Campus by the University Board of Trustees.

Dave was one of five professors selected for the teaching awards, each of which includes a prize of \$750 from the Alumni Association; there were two selected from the Lexington campus and three from the community college system. It is the first and oldest award on campus to recognize the mission of undergraduate education. The awardees are selected through student



Dave Watt

nominations and screening. Dave has taught a variety of courses in organic chemistry, graduate and undergraduate, and has consistently received student evaluations that are close to perfection.

As Vice Chancellor for Research, Dave assists the Chancellor in carrying out his administrative responsibilities relating to graduate education and

research on the Lexington Campus, which includes the Colleges of Agriculture, Architecture, Arts and Sciences, Business and Economics, Communication, Education, Engineering, Fine Arts, Human Environmental Sciences (formerly Home Economics), Law, Library and Information Science, and Social Work. The five colleges in the Medical Center sector are served by a second vice chancellor for research.

In July of 1991 Dave finished a four-year stint as department chairman. It was an extraordinarily busy and productive period for him. During that period he published over 50 research papers; supervised a research group of 10 to 15 undergraduates, graduate students, and postdoctoral fellows; managed grants from NIH, NSF, NATO, Chevron and the Kentucky Equine Research Council; presented over 40 papers at professional meetings all over this country and the world; presented over 30 seminars in Oregon, California, Texas, Missouri, Florida, Wisconsin, Ohio, Tennessee, Kentucky, France, and Turkey; and served on numerous departmental, college, and university committees. The development by Professors Watt, Tai (Pharmacy), and Tobin (Veterinary Science) of an immunoassay (called ELISA) for drugs of abuse in racing horses has led to the formation of a company in Lexington called WTT to market the products. Although it has been in existence for only a short time, it now has 14 employees and one million dollars in sales.

From a recent citation: "That Dave can find time to teach, chair the Chemistry Department, manage a large group of research students and write research papers and grant proposals is unusual. That he manages to excel in all these roles is truly extraordinary."

YATES NAMED CHAIRMAN OF ACS DIVISION

Steve Yates has been named to three prominent positions in U.S. nuclear science organizations. In January 1992 Steve assumed the chairmanship of the Division of Nuclear Chemistry and Technology of the



Steve Yates

American Chemical Society. He also serves as program chairman for the Division. Since June of 1990, when his appointment by Secretary of Energy James D. Watkins was announced, Steve has served as the nuclear chemistry representative to the Nuclear Science Advisory Committee. This group advises the Department of Energy and the

National Science Foundation on research and funding in the nuclear sciences. A three-year term on the Committee on Nuclear and Radiochemistry of the National Research Council, the principal operating agency of the National Academy of Sciences, completes the trio of appointments. A major purpose of the Committee is to maintain awareness of research in the chemical aspects of nuclear phenomena, and Steve serves as coordinator for monographs published by the Committee.

Steve was an undergraduate at the University of Missouri and received the Ph.D. with Prof. P. J. Daly at Purdue University in 1973. After two years as a postdoctoral fellow at Argonne National Laboratory, he joined the faculty of the University of Kentucky, where he has been professor of chemistry since 1985. A commitment to excellence characterizes everything Steve touches. He is a popular teacher of courses in general, physical, and nuclear chemistry. The ACS Student Affiliates selected him as Teacher of the Year in 1982-83. He is an effective committee member at the university, college and departmental levels because of the mixture of objective analysis, hard work, and good humor that he brings to committee service. His research program is a class act too. He has published nearly 100 research papers since his arrival in Lexington in 1975. The U.K. Research Foundation gave him its award for excellence in research in 1981.

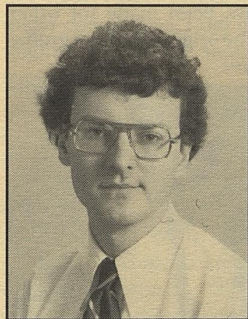
His research has been supported by the National Science Foundation continuously since 1981. Six Ph.D. and three M.S. students have received (or soon will receive) degrees under his direction. Steve spent a six-month sabbatical leave in 1981 at the Kernforschungsanlage in Juelich, West Germany. In August 1990 he returned from a second sabbatical spent at the Lawrence Livermore National Laboratory in California studying nuclear superdeformation and shape isomerism in heavy nuclei. The list of travels abroad for lectures and other duties includes Germany, The Netherlands, Belgium, Poland, England, Mexico, Hungary, Bulgaria, Yugoslavia, Austria, Finland, and Thailand.

LODDER AND CASSIS WIN IBM PRIZE

Dr. Rob Lodder, who holds joint appointments in the Department of Chemistry and the College of Pharmacy, is a co-winner of the \$25,000 first prize in the 1990 IBM Supercomputing Competition. The other winner is Dr. Lisa Cassis, a cardiovascular pharmacologist in the College of Pharmacy and Rob's wife. The award, in a competition that included entries from most major universities in the U.S., was presented at the 1991 Large Scale Computer Analysis and Modeling Conference in Utah. Their invention of a new diffuse reflectance fiber-optic probe for use in the detection and study of atherosclerosis was also featured on both the cover and in an article in the September 1990 issue of *Spectroscopy*. Their method is the first to record near-IR spectra of lipoproteins relevant to cardiovascular disease in living arteries.

Fiber-optic catheters have been used previously to locate atherosclerotic lesions and determine their size, but current techniques cannot determine the protein and lipid composition of living tissue. The new probe acts as a near-infrared "camera", and uses an IBM supercomputer to produce pictures of the chemical composition of the inner walls of arteries. The supercomputer-produced image of an artery exposed to saline solution alone is predominantly blue and green in color. The image of the artery exposed to saline containing LDL is red, which represents regions of maximum uptake of LDL by the artery wall. The discovery of an easy means of analysis of lesions in living arteries permits the analysis of the lesions as they grow, instead of after they have been removed from the body, as current methods require. As chemical constituents are proven to play key roles in the progression of the disease, improved treatment programs that focus on these constituents can be designed.

Rob and Lisa both came to UK in 1988. Rob was trained as an analytical chemist at Indiana University. In his doctoral research he employed the diffuse reflectance near-infrared technique in a number of analytical applications, including the detection of cyanide in capsules following the Tylenol scare in 1986. He teaches analytical courses and directs graduate students in both Chemistry and Pharmacy. Rob and Lisa have yet another new product to their credit. Andy Lodder was born on December 29, 1991.



Rob Lodder

TWO RETIREMENTS

Drs. W. T. (Tom) Smith and Kurt Niedenzu will add the word Emeritus to their professorial titles in May 1992. Each will end a distinguished career at the University of Kentucky. Neither has plans to disappear from the intellectual and social life of the department.

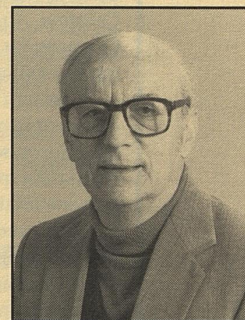
Tom Smith was born in Havana, Illinois and attended the nearby state university in Champaign-Urbana. Following graduation from Illinois in 1943, he was recruited to a job at the Mallinckrodt Chemical Co. to work on a project for the Atomic Energy Commission. He entered the graduate program at Indiana University in 1944 with a fellowship from the Eli Lilly Co. On receipt of the Ph.D. under the direction of John Billman in 1946, he accepted positions first as a postdoctoral fellow at the University of Chicago and then as faculty member at Iowa State University. In 1953 Tom came to Lexington as Associate Professor and became Professor in 1957.

Several generations of graduate students have received advanced degrees under Tom's guidance. Over the years students have been attracted by the mixture of interesting science, friendly attention, and the freedom to advance their own ideas that they found in Tom's group. Fifty-four have received graduate degrees since 1957! One hundred twenty-four papers attest to the group's productivity. In 1960 Tom received the University of Kentucky Alumni Research Award.

It is unlikely that anyone can ever again match the number of different courses that Tom has taught. In addition to courses in general chemistry, Tom has taught 22 different organic courses, only 10 of which still exist. As a Fulbright Lecturer he taught organic chemistry at the University of Libya in 1963-64 and at the American University of Beirut in 1965-66. In 1990 he spent a sabbatical leave at Indiana University and at various locations in Europe. He highly recommends a return to the scene of one's graduate work after a 45-year absence. Tom's encyclopedic knowledge of organic chemistry, his open, friendly, and unpretentious manner with students, and his reservoir of stories have made him a popular teacher.

Tom and his wife Mickey will continue to make frequent trips between Maine, where son Larry is Associate Professor of Psychology at the University of Maine in Orono, and their home in Lexington, which is also the home of son Gary, who is Laboratory Manager of the School of Biological Sciences at the University of Kentucky.

Tom Smith



Kurt Niedenzu

Kurt Niedenzu was born in Fritzlar, Germany and earned the Ph.D. in chemistry at the University of Heidelberg in 1956. After two years as an Instructor at Heidelberg, he came to the United States to work for the U.S. Army Research Office in Durham, North Carolina. After 10 years with the army, he returned to Germany for a year with Wintershall AG, before coming to Lexington in 1968.

Although Kurt's first six papers deal with phosphorus chemistry, most of the remaining two hundred have boron somewhere in the title. Evidence of Kurt's reputation in boron chemistry may be found in list of universities throughout the U.S. and Europe where he has delivered lectures on the subject, in his visiting professorships at the Gmelin Institute in Frankfurt, at the University of Munich, and at the University of Gottingen, in the long list of his review articles on the subject, and in the generous grant support that has continuously supported his research at U.K. since 1968. In 1963 he was named Outstanding Scientist by the U.S. Department of Defense, in 1973 he received the Award of the Alexander von Humboldt Foundation of Bonn, and in 1979 he was appointed Research Professor by the University of Kentucky.

Kurt's obvious commitment to research takes second place to his enthusiasm for teaching. His somewhat gruff exterior cannot conceal the enjoyment he experiences from the interaction with students. In 1982 he was named Teacher of the Year by the ACS Student Affiliates. A freshman student recently commented that being in Kurt's class was like having Arnold Swartzenegger as a chemistry teacher, referring either to Kurt's physique or to his accent.

It is unlikely that Kurt's word processor will cool down during his retirement. For many years he has served as an editor for two monograph series, Topics in Current Chemistry (along with a world-class list of co-editors) and Inorganic Concepts, and for the Gmelin Handbook of Inorganic Chemistry. He has plans to continue his association with the two monograph series.

Keeping up with their four children could become a full-time job for Kurt and his wife, Evelyn. Their daughter Barbara is married to a physician, who is about to move from the University of Cincinnati to the University of Michigan. Kurt, Jr. is a high school teacher in Charlotte, NC. Philip is a Ph.D. chemist with DuPont in Wilmington. Birgid, their youngest, has just returned from two and a half years with the Peace Corps in Botswana, where she taught high school science in the middle of the Kalahari Desert.

The regret that will be felt by students, alumni and faculty as Tom Smith and Kurt Niedenzu depart from the active ranks will be tempered by the knowledge that they will both be seen frequently in the department.

MARY RICHARDSON, WINNING ALUMNA

Mary Frances Richardson's love of science goes back to 1951, the year she saw the science-fiction classic "When Worlds Collide" at age 10. Watching scientists expand the horizons of the known world in that darkened movie house in Barbourville, Kentucky thrilled her in a way that was not to fade after the walk home.

"I started building rockets in the backyard the next day," says Richardson, who went on to earn her B.S. and Ph.D. degrees in chemistry from UK. "There is such a sense of adventure in science."

In the 40 years since then, Richardson has built an impressive career based on her two loves — scientific research and teaching. Her ground-breaking research into the structure of molecules has gained attention from scientific groups around the world, and her effectiveness in the classroom led to two major teaching awards in 1991.

She discovered her love of teaching while a graduate student at UK. "I find it thrilling to be able to help people learn things they want to know about," she says. "But I like research equally well and would certainly feel I were missing something if I could not do research. I would not want to give up either."

Richardson, a professor of chemistry at Brock University in Ontario, in 1991 received a Teaching Award from the Ontario Confederation of University Faculty Associations, which annually bestows this prestigious award on seven teachers chosen from 12,000 faculty members in the province. She also was "very touched" in 1991 when she received a Brock Alumni Association Award for Excellence in Teaching.

Richardson has been praised as a warm and compassionate teacher who truly cares about her students. Several years ago she had a student who wanted to major in chemistry but was unable to reach all the lab equipment because he was in a wheelchair. Richardson obtained grant money and, with two other faculty members, worked with the university machine shop to devise an adjustable-height wheelchair. Since then, two similar wheelchairs have been made for other handicapped students, and the original student graduated with his chemistry degree.



Mary Richardson

As a researcher, Richardson has published more than 50 papers and is well known in chemistry circles around the world, especially for her study, published in the late '70s, on the gas/solid asymmetric transformation inside a centrosymmetric crystal. "Mary is an original thinker and has a deep understanding of crystal chirality," says Meir Lahav, a chemist at the Weizmann Institute for Science in Israel, the leading organic solid-state chemistry research group in the world. "I am also most impressed by her ability as a teacher."

Chirality refers to whether molecules can be superimposed on their mirror images, similar to how left- and right-handed gloves fit together. Richardson demonstrated in her study that it is possible to turn a molecule with two-dimensional chirality into a molecule with three-dimensional chirality — a feat previously thought not possible. Such broadened knowledge of molecular structures, says Richardson, may lead to the development of new materials for possible use in the pharmaceutical and biochemical industries.

When Richardson looks back on her UK days, she is especially grateful to chemistry professor Bill Wagner (now retired) for showing her that chemistry was "wonderful stuff" and for never discouraging her because she was a woman. "There were lots of people telling me I'd never get a job in chemistry, but he never treated me differently from the male students."

Richardson takes pride in having proven those early nay-sayers wrong, but hers has been a somewhat lonely climb in an almost exclusively male sphere. As a UK undergrad, she was the only female chemistry major in her class. She is the only female full professor in her department, and when she served as department chair at Brock in 1979-1981, she was the only woman chemistry chair in Canada. Presently, about 20 percent of chemistry Ph.Ds in Canada are women.

During her 20 years at Brock, Richardson has taken a very active role in committee work; this was a deliberate effort to be a role model, she says. "Women need to be better represented at the power levels of universities. As my career progressed and I was asked to sit on major committees, I did it. I felt if I did well, people might say, 'Hey, we should get another woman on sometime.'"

"Being the 'only woman' on this and that has been a burden," she says, "I have been doing it a long time, and now that there are younger women coming along, I'd like to have more time for the things I really like — research and teaching."

Richardson is currently studying the crystallization of silicon carbide, a very hard substance used as a diamond substitute. "Silicon carbide crystallizes in many different forms, called polytypes, which are not well understood. I am interested in the whole area of why some substances crystallize as polytypes and others

don't, and the effect of these polytype structures on the physical and chemical properties of crystals."

After 30 years of research, she still clearly enjoys wrestling secrets from this submicroscopic world of atoms and molecules. "Much of what I study is so small I cannot see it with a standard microscope — I use an X-ray diffractometer — but it is still an exploration of the world," she says. "It's not anything like 'When Worlds Collide,' but it still thrills me."

(This article was written by Suzanne Froelich for the winter-spring 1992 issue of "Odyssey", the Magazine of University of Kentucky Research.)

CHARLES H. H. GRIFFITH RETIRES

After twenty-seven years of service to the Department of Chemistry, Charles Herschel Holmes Griffith has retired. A reception in his honor was held on May 8, 1991 in the Tuttle Conference Room. Attending the reception were his wife, Gloria, his daughters, Diane and Susan, two of his grandchildren, and many friends, students, and colleagues.

As Laboratory Supervisor he trained and supervised all of the teaching assistants in general chemistry, occasionally filling in for them when a last minute emergency arose. He made sure that students knew what they were doing by preparing frequent quizzes for them. He was the liaison with the stockroom, making sure that supplies were ready for students when they arrived at each lab period. As they left, he made sure that the labs were left spotless.

Although the number of students who have passed through the basement labs in the last 27 years is staggering, those labs show their age less than others in the building. Charlie took great pride in his work. He seldom quit working at the end of eight hours and he wouldn't take all the vacation time that was owed him. He set high standards for the TA's under his supervision and even higher ones for himself.

Charlie was born in Huntington, Indiana, son of Herschel Holmes Griffith. He received the B.S. and M.A. degrees in Chemistry from Indiana University. His education was interrupted from 1943 to 1946 for service in the Marine Corps. Part of that time was spent studying chemical engineering at Purdue, part at Marine camps (including Parris Island, Lejeune, and Pendleton), and part at a variety of destinations in the



Charles and Gloria Griffith

Pacific (Hawaii, Guam, Truk, and Tsingtao, China among others). At Indiana he played clarinet in the Marching Band, a group to which he was to return years later as a member of the Alumni Marching Band. Charlie worked as an industrial chemist and taught science and math in high school until 1964, when he joined the staff at U.K.

Charlie has long enjoyed sports. He was a wrestler in high school and college. He is an active booster of the U.K. Ladykat basketball team and he is a fifteen-year member of the Committee of 101, a volunteer organization to support U.K. basketball. As a member of that group, Charlie has spent many hours as an usher for university basketball and football games.

The Griffith's daughter Susan Griffith, mother of six-year-old twins, is an M.D. at the U.K. Family Medical Center. Daughter Diane Barnett, who has been a dietician at Central Baptist Hospital since 1978, is finishing a masters degree at U.K. Gloria Griffith, who also retired in June 1991, was for many years a business instructor at the Central Kentucky Vo-Tech School in Lexington.

Former students and TA's often return to the department with fond memories of Mr. Griffith. Those memories will be kept alive by the Charles H. H. Griffith General Chemistry Teaching Assistant Award. To encourage and reward excellence in teaching in the General Chemistry labs, the new award will be given annually to an outstanding TA. At the retirement reception, Charlie was presented with a watch and a picture history of the university, but neither will last as long as the award in his name.

THE FALL 1991 ENTERING GRADUATE STUDENT CLASS

In the face of a seven year decline in the number of bachelor chemistry graduates in this country, Fall 1991 saw one of the largest entering classes of graduate students in our Department in recent memory. The class credentials indicate that it may also be one of the most talented.

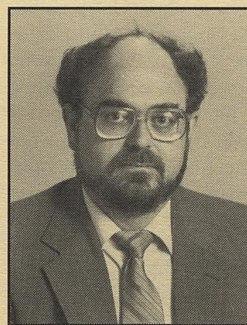
Twenty new graduate students arrived in August. Of these, 14 are from the States — ranging from New Jersey to Michigan to South Dakota to Florida. Four students are from Kentucky and three from Ohio. The International students are truly diverse — four Indians, a woman from France, and a student from the Kazhakstan in the former Soviet Union. He finally made it through their Byzantine passport and travel system to become one of only about a half-dozen Soviet graduate students in this country who enrolled in a U.S. university in a normal fashion.

This is a very talented entering class. Their median verbal and quantitative GRE scores are 67% and 82%,

respectively. The median undergraduate GPA of the American students is a 3.3, with two students having perfect 4.0 averages. One of the latter brought his own NSF Predoctoral Fellowship with him to the University of Kentucky. Typically, there are only about four to five such students on the entire campus in any year.

Owing to the generous donations of our graduates and the munificent bequest of the late Col. A. Sidney Behrman, we have been able to offer this entering class \$56,100 in add-on Departmental Fellowships designed to attract highly qualified graduate students to our Department. In addition, five of these students were able to win some \$33,500 in fellowships from our Graduate School in open competition with applicants to all graduate programs on campus.

JIM O'REILLY, DOG EXTRAORDINAIRE



Jim O'Reilly

Much of the responsibility for attracting good graduate students to U.K. falls on the Director of Graduate Studies, Dr. Jim O'Reilly. The large recruiting operation involves the preparation and mailing of departmental booklets, applications (1500 in '90-91), and posters; the processing of hundreds of applications (362 in '90-91, many from international students); a sizable number of mail and phone contacts with prospective students; and the coordination of the application process with the Graduate Program Committee. There is staff assistance available with some of these jobs, but it is the O'Reilly work-ethic and tireless attention to detail that has made the operation the success that it is.

Once the student arrives on campus, Jim oversees a thorough, week-long orientation program that includes a battery of standardized ACS "proficiency" exams, a review of departmental procedures and regulations, language tests for international students, instruction on how to teach, a safety program, and social time for meeting faculty and other students. The new graduate students may be surprised to find that part of the week's activities includes a return to the freshman chemistry lab for a hands-on lab experiment and oral report to their peers. They generally appreciate the exercise, which gives them a clearer idea of how their students will react to these same experiments in the coming weeks.

Jim plays a major role in the lives of these students as they progress through their graduate careers. At

each stage — cumes, oral qualifying exam, advisory committee meetings, dissertation, departmental seminar, and final oral exam — Jim is involved: signing off on the paperwork, smoothing the path through the Graduate School maze of regulations, applying a kick or a pat on the back where appropriate, and, in general, providing quality control to the system. Through an annual review of each student by the Graduate Program Committee and by insisting that advisory committees meet regularly, he insures that each student's progress is monitored closely. One result is that the average length of time required to earn a degree has declined a bit in recent years. Another can be seen in the number of advanced degrees awarded in 1991: 3 M.S. and 9 Ph.D. degrees. He has been a tireless advocate of higher teaching stipends, deluging the Graduate School with data showing how this department fares relative to other departments across the country. His manner with students is direct and humane. It's not difficult to find students who have excelled after a bracing heart-to-heart with the DOG (Director of Graduate Studies). Discouraged or in trouble? The DOG is ready with help and reassurance.

More students accepted offers of teaching assistantships for the fall semester of 1991 than past experience led anyone to expect, and they arrived on campus not knowing that the Director did not have enough money to pay them all if everyone showed up. If O'Reilly worried about this situation, he need not have, for far from having too many people to fill the positions in January 1992, he did not have enough. Owing to faculty grant success, a large number of students moved onto research grants, leaving the DOG to find replacements at rather short notice. Jim monitors the teaching evaluations of TA's each semester, giving counsel where it is needed.

Jim came to U.K. in 1973 after a B.S. (magna cum laude) from Notre Dame, a Ph.D. from the University of Michigan with the late Philip Elving, and a two-year postdoctoral stint at the University of Illinois. In addition to his 30 research publications in analytical chemistry, he is the principal editor of a widely used textbook, *Instrumental Analysis*, which is now in its second edition. It is appropriate that the text was translated into Italian, for that language was spoken around the O'Reilly household while Jim grew up. Jim's wife Carol works for the Interdisciplinary Human Development Institute at U.K. and has recently received a five-year grant from the state to develop community support groups for families of handicapped people. His daughter Shannon is in the seventh grade at the School for the Creative and Performing Arts in Lexington, and his son Kevin works in the heart cath lab at the University Medical Center. Jim's service as a soccer referee helps to take the edge off his frustrations with campus administrators, though he probably wishes he could bring them in line simply by blowing his whistle.

Although he started refereeing in the local youth league, his skill has made him in demand for high school and college games.

Although Jim's professional life as teacher, administrator, and researcher was already full to overflowing, in 1989 he accepted the additional job of Associate Chairman. Jim's organizational skills and his ability to work effectively with people at all levels at the university (secretaries, deans, freshmen, faculty, graduate students, etc) have made him indispensable to the department.

GRADUATE DEGREES AWARDED

Doctor of Philosophy

Linan Chao Ph.D. (Butterfield) Dec. 90, "Water Transport Across Human Erythrocyte Membrane Studied by the $^1\text{H-T}_2$ NMR Doping Method", Postdoctoral position with Professor Markrannis at the University of Connecticut College of Pharmacy.

Peter J. Crocker (Watt) May 91, "Synthesis of Tyrosine- and Cysteine-based Heterobifunctional Photoaffinity Cross-Linking Reagents", Postdoctoral position with Professor Miller at the University of Notre Dame.

Kevin G. Frank (Selegue) Dec. 90, "Synthesis and Physical Studies of Transition Metal Vinylidene, Alkyne, and Ethynediyl Complexes", Mobay Corp. in New Martinsville, WV.

Mary K. Freeman (Bachas) Aug. 91, "Development of Optical Detection Systems Based on Recognition Chemistry", Staff Scientist at Kaman Sciences in Alexandria, VA, working on chemical sensors.

Yigang Fu (Brock) May 91, "Crystallographic Studies of Thermal Motion And Disorder", Postdoctoral position with B. Wunderlich at the University of Tennessee and W. R. Busing at Oak Ridge National Laboratory.

Richard A. Gatenby (Yates) Aug. 90, "Level Schemes, Lifetimes, and Gamma-Ray Transition Rates in ^{142}Nd and ^{144}Sm from the (n,n') Reaction: Evidence for Two-phonon Octupole Excitations", Research Scientist at Bettis Atomic Power Laboratory, a division of Westinghouse.

Kevin L. Harbol (Kiser) Dec. 91, "A Mass Spectrometric Investigation of Triply-Charged Diatomic Molecular Species", Development Scientist at Burroughs Wellcome Co. in Greenville, NC.

Huawen Li (Guarr) Aug. 91, "Novel Metallophthalocyanine Conductive Polymers: Preparation, Electrocatalysis, and Electrochromism", Senior Research Chemist II at PPG Industries, Inc. in Monroeville, PA.

Rongguang Lin (Guarr) Dec. 91, "Spectroscopic, Electrochemical, and Photophysical Properties of

Rhenium (I) Complexes", Postdoctoral position at the Center for Applied Energy Research in Lexington.

Buchang Shi (Guthrie) May 91, "Ether and Ester Radical Anion Cleavage Reactions", Postdoctoral position at the Center for Applied Energy Research in Lexington.

Vanessa J. Wotring (Bachas) Aug. 91, "Design and Development of Polymer Membrane Anion-Selective Electrodes", Research Chemist at Tennessee Eastman in Kingsport, TN.

Mary Ann Yacko (Butterfield) Dec. 90, "Electron Paramagnetic Resonance Studies of the Structure and Function of the Ca-Regulatory Protein, Calmodulin, In Solution and Bound to the Erythrocyte Membrane", Postdoctoral position with Professor Michael Jay in the College of Pharmacy at U.K.

Ping Zhuang (Butterfield) Dec. 91, "Electron Paramagnetic Resonance, Fluorescence, and Enzymatic Characterization of the Structure and Function of A Thiol Protease in Solution and Bound to Synthetic Membranes", Postdoctoral position in Biochemistry at the University of Tennessee.

Master of Science

Maren M. Nicholas Burchfield, Athens, OH, May 91
T. Bradley Gold, Lexington, Dec. 90

Lesotho David Kock, Kimberly, South Africa, Dec. 90

Jay T. Rae, Greenwood, IN, Dec. 91

Anuradha Rangachari, Bangalore, India, Dec. 91

Andrew M. Schneider, Suffern, NY, Aug. 90

Diane Lowe Simmons, Dickson, TN, Aug. 90

THIRTY YEARS OF MURRILL FELLOWSHIPS

The first Paul I. Murrill Fellowship was awarded by the Department of Chemistry in 1961. This academic year is the thirtieth year of the oldest and most prestigious graduate fellowship awarded by the Department.

Paul I. Murrill obtained his B.S. from the University of Kentucky in 1895 and an M.S. in 1896 under the direction of Professor Kastle. He was awarded the Ph.D. from the University of Michigan in 1899, and went on to a long and distinguished career. He retired in 1940 and died in 1957. He was a life member of the Alumni Association.

After his death, an endowment was established in his name, the earnings of which are used to provide fellowship support for outstanding Chemistry graduate students. For a number of years, the earnings were used to provide full fellowship support for students for a semester or a year. More recently, these have been 4-year renewable fellowships added to a standard Teaching or Research Assistantship to better attract students with outstanding records and potential to the Department.

The holders of the Paul I. Murrill Fellowship have been: 1961-62: William H. Zuber, Jr.; 1964-65: Philip A. Baedecker; 1965-66: Richard P. Ryan; 1966-67: Richard P. Ryan; 1967-68: Doris M. Thompson; 1968-69: Cecil D. Garrett; 1969-70: David L. Greene; 1970-71: Ilse Alice Boenig; 1971-72: George W. Pendygraft; 1972-73: Phillip H. Davis; 1973-74: Maw-suen Ma; 1974-75: Chang-shi Hwang; 1975-76: Keith A. Bender, Arthur T. Fowler, Robert C. Young; 1976-77: Jimmy Feix, Arthur T. Fowler; 1977-78: Sarah Pirtle; 1979-80: Elizabeth Holland; 1980-81: Diane Lowe; 1981-82: Maren Nicholas, Diane Vance; 1982-83: Maren Nicholas; 1985-86: Michael Bucknum; 1986-87: Thomas Bradley Gold, Robert Noe, Anne J. Welling, Vanessa Wotring; 1987-88: Cecilia Clarke Davis, Thomas Bradley Gold, Ellis (Lee) Johnson, Anne J. Welling, Vanessa Wotring; 1988-89: Cecilia Clarke Davis, Ellis (Lee) Johnson, Alynne I. MacLean, Anthony Sutorik, Vanessa Wotring, Daniel J. VanDalsem; 1989-90: Ellis (Lee) Johnson, Jeffrey Lomprey, Alynne I. MacLean, Vanessa Wotring, Daniel J. VanDalsem; 1990-91: Peter Crocker, Ellis (Lee) Johnson, Alynne I. MacLean, Vanessa Wotring, Daniel J. VanDalsem

STUDENT AWARDS 1991

Undergraduate Awards

Merck Index Award for scholastic achievement in chemistry: **Michael Mollman**

Undergraduate Award in Analytical Chemistry; subscription to the Journal of Analytical Chemistry: **Alan Wang**

Undergraduate Service Award for service to the Chemistry Department; \$50: **Vincent Stapp**

American Institute of Chemists Award for scholastic achievement, leadership ability and character; membership in the AIC: **Chris Luigart**

Willard Riggs Meredith Award to the outstanding senior in chemistry; \$100: **Neil Scheurich** and **Michael Boggess**

Stephen Harris Cook Undergraduate Summer Research Fellowship; \$800: **Adams Lurding**

Thomas B. Nantz Memorial Scholarships; tuition scholarship: **Shannon Rae Long**

CRC Handbook Award to the outstanding freshman chemistry major: **Holly Kae Gersch**

Maurice A. Clay Award to the outstanding senior in the University: **Neil Scheurich**

General Chemistry Excellence Award to the student with the highest score in general chemistry each semester; \$500: **Stephen Blake** (Fall 1990), **Mark D. Morgan** (Spring 1991), and **Christopher W. Dever** (Fall 1991)

Phi Beta Kappa: **Kenneth L. Hensley** and **Andrew Kasarskis**

Graduate Awards

Outstanding Teaching Assistant Award; \$500 from the Behrman Fund: **Judy Ratliff**

100% Plus Award to the student who shows the most exemplary professional attitude; \$500: **Santosh Kottayil** and **Vanessa Wotring**

Graduate Student Research Award based on research accomplishments for the past year; \$500 from the Behrman Fund: **Hua-Wen Li**

Thomas B. Nantz Memorial Scholarships; tuition scholarship: **Sundar Vasudevan**

Ashland Oil Foundation Summer Research Fellowships; \$1600: **John Allen, Jeff Lomprey, and Mitch Owens**

Graduate School Academic Excellence In-State Tuition Scholarship: **Jeffrey Lomprey**

Graduate School Open-Competition Academic Year Fellowship; \$8500 plus tuition: **Michael Deibel** and **Lee Johnson**

Franklin E. Tuttle Fellowships: **Charles Cornett, Peggy Fenwick, Michal Heine, Donald MacLean, Michelle Savage, Deborah Singleton, Lav Tandon, Amy Wong, and Ping Zhuang**

Paul I. Murrill Fellowships: **Peter Crocker, Lee Johnson, Alynne MacLean, Vanessa Wotring, and Daniel VanDalsem**

Center for Computational Sciences Graduate Assistantship: **Yi Zou** and **Xueqing Zhao**

Graduate School Minority Fellowship; \$7000 plus tuition: **Amy Suwu Wong**

Graduate School Fellowship for Women in Underrepresented Areas; \$10,000: **Angela Fultz**

Graduate School Quality Achievement Fellowships for outstanding entering graduate students; \$3000: **Angela Fultz** of Berea College, **Richard Hutchins** of Princeton University, **Michael Deibel** of Capitol University, **Christopher McGrath** of Gannon University, and **Allan Witkowski** of Transylvania University and University of Florida

Graduate School Allocated Academic Year Fellowships awarded on the basis of degree productivity of the program and the general excellence of the program's faculty and graduate students; designated by the department; \$7000 plus tuition: **Mitchell Owens**

Graduate School Dissertation Year Fellowship; \$10,000 plus tuition: **Alynne MacLean**

FOOD FOR THOUGHT

The seminar program plays a key role in the intellectual nourishment of the department. The seminars in a typical week include the four divisional graduate seminars, the undergraduate seminar for junior and senior chemistry majors and the departmental seminar, a report on recent noteworthy research intended for the whole department. Graduate students who are

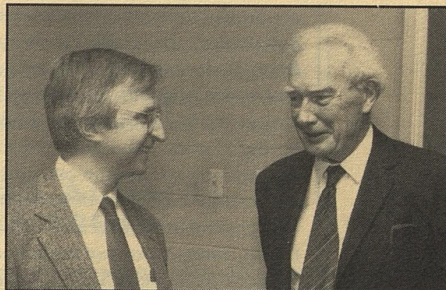
about to complete their Ph.D. research also report on that work at the departmental seminar.

The seminars of the week of April 1, 1991, for example, were not atypical. On Monday Dr. Harriet Ades, of the U.K.

Chemistry Department, addressed the Physical Chemistry Seminar on "Quantum-Chemical Investigations of Coal Fragments and Model Compounds". On Tuesday Dr. Glenn Lipscomb of the University of Cincinnati gave a seminar titled "A Thermodynamic Analysis of Mixed Gas Sorption in Glassy Polymers" to the Center of Membrane Sciences Colloquium. On Wednesday two undergraduates, J.A. Eastone and E. T. Miller gave seminars entitled "Europium Chelate Labels in Time-Resolved Fluorescence Immunoassays and DNA Hybridization Assays" and "Methods Used for the Identification of Brain Chemicals and Some Properties of Neurochemicals". On Thursday afternoon, Professor Robert Crabtree of Yale University gave a departmental seminar on his research on "Recent Developments in Carbon-Hydrogen Bond Functionalization". That evening at the monthly meeting of the Lexington section of the American Chemical Society, Dr. Truman Schwartz of Macalester College talked about "Education in Chemistry: A Time to React". At Friday noontime graduate students Sundar Vasudevan and Liria Morrell reported on recent research literature to the Organic/Biological and the Analytical/Radio/Nuclear divisional seminars on the topics, "Substrate-Controlled Diastereoselectivities in Catalyzed and Uncatalyzed Hydroborations of Acyclic Allylic Alcohol Derivatives" and "Controlled-Dose Delivery Using Acoustically Modulated Membranes". The capstone of the week was a departmental seminar on Friday at 4 p.m. by Professor Jack Dunitz of the Swiss Federal Institute of Technology in Zurich entitled "Phase Transitions in Molecular Crystals: A Chemical Viewpoint". All told, it was a menu that provided something for every appetite.

Other speakers in 1990-91 have included Drs. Kenneth Suslick (Illinois), Gary Christian (Washington), Marcetta Darensbourg (Texas A&M), Derek Barton (Texas A&M), Kirk Schanze (Florida), Gary Weisman (New Hampshire), Christie Enke (Michigan State), David Laude (Texas), James Cowan (Ohio State), Ben Freiser (Purdue), and Bruce Averil (Virginia).

The Naff Symposium of 1991, planned by a committee headed by Dr. Robert Rhoads of the Department of Biochemistry at U.K., featured four outstanding speak-



Watt and Barton

ers on the topic of "Initiation of Protein Synthesis in Eukaryotes". Dr. Hans Trachsel, of the University of Bern, Switzerland, Dr. Richard Jackson of Cambridge University, England, Dr. Robert Thach of Washington University, St. Louis, and Dr. Michael Mathews of Cold Spring Harbor Laboratory, New York, participated in the day-long symposium on April 18. It attracted listeners from a variety of departments on campus, from colleges and universities across the state and from neighboring states. A group of students and faculty from Case-Western in Cleveland, OH, for example, started very early to arrive in time for the opening talks at 9:30 a.m. The Naff Symposium continues to bring to the department and university presentations of research from the frontiers of chemistry and molecular biology.

MAGGIE JOHNSON, CHEMISTRY-PHYSICS LIBRARIAN



Maggie Johnson

To the job of Librarian of the Chemistry-Physics Library, Maggie Johnson has brought a wealth of experience, expertise and enthusiasm since she joined the UK Library staff in March, 1989. Data base searches are of particular interest to Maggie, who conducted over 1000 data base searches for scientists last year. She has access to over 500 data bases, including Beilstein on-line, both on the main frame computer and on CD-ROM. The CP library added its 50,000th volume this year and is bulging at the seams. To relieve the crowding, compact shelving will be installed in 1992, doubling the shelf space of the branch library, housed in its current quarters in the CP Building since 1963.

Maggie earned a B.A. from Northern Illinois University, a Master of Librarianship from the University of Washington and an MBA from Lincoln University. She has worked in libraries at the University of Alaska, the University of Washington, the Missouri State Library and the Kansas City Public Library, and has held a variety of other administrative positions in Missouri. She was recently elected President of the Special Libraries Association, Kentucky Chapter. Her husband, Terry, holds a Ph.D. in entomology and is Director of Analytical Chemistry for PTRL (Pharmacology and Toxicology Research Laboratory) in Lexington.

UNDERGRADUATE RESEARCH

During the summers of both 1990 and 1991, REU (Research Experience for Undergraduates) grants from the National Science Foundation brought a group of talented students to Lexington for an eight-week introduction to chemical research. In 1991 there were 13 REU students; in 1990 there were 23. Projects were carefully selected to be appropriate for the students' level of experience, to be sufficiently challenging to excite their interest and to promote their interaction with the faculty, graduate students and postdoctoral fellows in the individual research groups. The students were about equally split between rising juniors and rising seniors. Most came from colleges and universities in Illinois, Michigan, Alabama, West Virginia, Tennessee, and Kentucky.

There were two REU programs on campus in 1990, both led by members of the Chemistry faculty. Leonidas Bachas headed the program in Membrane Sciences in 1990. These students joined research groups in Chemistry, Pharmacy and Chemical Engineering departments. Jeff Appling directed the Chemistry program in 1990 and again in 1991.

The activities of the 1991 group was typical of the whole program. In addition to their individual laboratory work, they met as a group twice a week. For an hour each Friday they met to hear research results from each other and to hear speakers on such topics as professional ethics, how to give a poster session, career opportunities for chemists, how to use the library and its facilities for online database searching, as well as an occasional research seminar from visiting faculty. Half-hour "administrative" sessions each Tuesday were used to address routine problems before they interfered with the laboratory experience. The group lived together in a dormitory on campus and had access to campus recreational facilities. As the summer progressed, a group camaraderie developed, which led, for example, to weekend trips to Kings Island, the Cincinnati Zoo and Mamouth Cave in 1991. They joined faculty, staff and students at a summer picnic at Claude Dungan's farm in Paris.



REU Participants

Each participant in the chemistry program submitted a progress report at the half-way point and a formal final report at the end of the summer. In 1990 some returned to campus in April to present their work at the undergraduate poster session held each spring for senior chemistry majors from U. K. and other colleges and universities in the region.

Judging by their comments at the end of the summer of 1990, the program was successful. "I loved my job. It was a fantastic opportunity to see what real research was like.", said one student. Another said, "I liked feeling like an active, productive member of a research group." By summer's end most said that they planned to seek graduate degrees in chemistry.

The faculty was enthusiastic in its evaluation of the first year's program. "Overall I thought the program was a great success. The student working with me was enthusiastic and hardworking, and accomplished a surprising amount", was a typical comment from the faculty. All agreed that the program's aim — to stimulate an interest in chemical research — was a rousing success.

COMMUNITY COLLEGE CHEMISTRY FACULTY MEET

In April 1991 U.K. chemistry faculty from the Community College System met in the Chemistry Department in Lexington to hear two speakers, to meet informally with one another and the Lexington Campus faculty, and to share lunch together. Faculty from Community Colleges in Maysville, Somerset, Prestonsburg, Hazard, Elizabethtown, Hopkinsville, Louisville, Lexington, Owensboro, Ashland, Paducah, Madisonville and Henderson were present. Among them were Jean Bowdan of Somerset, who worked in Dave Watt's group, S.V. Suryanarayana of Paducah, who received the Ph.D. in 1968 with Don Williams, Mike Trover of Madisonville, who received the B.S. in 1975, and Kim Woodrum of Lexington, who received the B.S. in 1986 and the Ph.D. in 1989 with Kurt Niedenzu.

After introductory words by Dave Watt, Lexington Campus Chemistry Department Chairman, Mike Kerwin, representing the Community College System administration, and Lou Swift, Dean of Undergraduate Studies at U.K., the group heard a presentation of "New Techniques in the Chemistry Classroom: Video Laser Disks, VCR's, Overhead Projectors, and Computers", a demonstration of new departmental video equipment, by Bob Kiser, Director of General Chemistry on the Lexington Campus. Following lunch at the Faculty Club, Bob Cadle of the U.K. Fire and Accident Prevention Bureau talked about safety in the chemical laboratory and storeroom. In addition to the formal presen-

tations, the participants welcomed the opportunity to renew acquaintances with Lexington Campus faculty and to compare notes on teaching chemistry with their colleagues throughout the system. They spoke of their enthusiastic anticipation of the next such meeting.

FEATURING ALUMNI FROM 1960-1964

Since 1980, Chem-News has featured news of alumni from five-year periods, starting with graduates in 1920. In early 1991, alumni from the classes of 1960-1964 were asked to describe their careers since leaving U.K. News from people who missed the deadline is always welcome.

Hubert L. Richards, B.S. 1960 "After graduating from UK in 1960, I received the Ph.D. from the University of Florida in Physical Chemistry under the direction of Professor E. E. Muschlitz, Jr. My dissertation was entitled "Angular Dependence of the Scattering of Metastable Helium Atoms in Helium and Neon". Since that time, I have been a member of the technical staff of the Development Division of the Oak Ridge Y-12 Plant, operated by Union Carbide Corporation and later by Martin-Marietta Energy Systems. My work in the past twenty years has been in the area of x-ray photoelectron spectroscopy, scanning Auger and Auger electron spectroscopy, and secondary ion mass spectrometry. My wife, Gwin, and I have two grown children, Jeffrey Richards, 30, who resides with his wife in Raleigh, NC, and Elizabeth Richards Fitzpatrick, 27, who recently married and lives in Columbia SC."

E. Herbert Thompson, B.A. 1961 "After graduating from U.K. in 1961, I attended West University School of Medicine, graduating in 1965. After that I served a residency in Orthopedic Surgery at Akron City Hospital in Akron, Ohio. I completed this training in 1970. Following completion of my training, I served two years in the Army and then entered practice in Akron and have remained here since.

"I currently am an Assistant Professor of Orthopedic Surgery at the Northeast Ohio University College of Medicine and an Adjunct Professor of Education at the University of Akron. I have been associated with the Orthopedic Residency training program at Akron City Hospital since I entered practice, serving for a number of years as chairman of the Residency Education Committee. Also, I have been a team physician for the University of Akron for 18 years and was given the Meritorious Service Award by the University of Akron Sports Hall of Fame on February 2, 1990.

"I have been married to my wife, Delores, for almost 26 years and we have a daughter, Beth, who is a graduate of Florida State University and a son, Craig, who will graduate from the University of Michigan in two weeks. Beth's degree was in Music Performance and Craig's will be in Chemistry.

"I have a lot of fond memories of the University and the Chemistry Department. Probably the best was the memory of what a fine gentleman and good advisor Dr. Wagner was. Also, one could never forget having to write the periodic table on all of Dr. Sears' tests."

Mary Frances Richardson, B.S. 1962, justified taking time away from more pressing duties to write to us about her recent history by noting that "I am on sabbatical as of July 1, and expect to be writing lots of papers that I've been too busy to get on with."

Brief career synopsis: B.Sc. '62, Ph.D. '67 from UK; four years postdoctoral work at Wright-Patterson Air Force Base with Bob Sievers; appointed as Assistant Professor at Brock University in St. Catharines, Ontario, in 1971; Associate Professor in 1975; Professor in 1981; chaired the Department of Chemistry from 1979 to 1982; did research in structural chemistry, molecular modelling, and solid-state NMR spectroscopy; received the Brock Alumni Award for Excellence in Teaching in 1991.

"The professors I had at UK are with me still, at least in spirit, when I am teaching and doing research. Hartley Eckstrom and Bill Wagner made chemistry seem so much fun that I changed my major (from Math), and Bill gave me my first opportunity to try research at the end of my sophomore year. Paul Sears did his best to make professionals out of us in Physical Chemistry, and we shaped up quickly in order to avoid the sharp edge of his tongue! Joe Wilson - well, who will forget the wonderful blend of chemistry and socializing at Joe's parties, especially the times the fire trucks came! And although I never had a course from Don Sands, he patiently taught me crystallography after I got my Ph.D. and so shaped my career.

"Incidentally, I still have the photographs of the Halloween party when we dressed up like professors - perhaps I should finance early retirement with them! Unfortunately, another set of photographs didn't turn out - the ones of the mushroom cloud hanging over the lake after we threw in the pound of sodium.

"The last five years has been exceptionally busy and exciting because of my commitment to improving the university experience for both women faculty members and women students. I chaired the Women's Studies Committee which founded a program in Women's Studies at Brock, and have been actively involved in several conferences which address gender issues and systemic discrimination in the universities. Also in the last five years I've been active on the Brock Senate, chairing it for two years; chaired the Computer Policy Committee which produced a plan to decentralize computing at Brock; served as member and/or chair of the University Committee on Promotion and Tenure for three years; was a member of the Presidential search committee and several other search committees as well - women are always in demand! - and served as Chief Grievance Office for the Faculty Asso-

ciation for two years (enough to make me decide that if I'd wanted to be a lawyer I wouldn't have taken a Ph.D. in Chemistry!).

"For relaxation I still make beer, travel lots of places to drink good beer, act as a beer judge, give lectures on making good beer at home, and run tastings on beer styles of the world. I also canoe and bird-watch."

John Bates, B.S. 1964 "After graduating in '64, I entered graduate school at U.K. and finished my Ph.D. work in '68. My thesis research involved the vibrational spectroscopy and structure of some molecular crystals. I continued this type of research as a postdoc in Ellis Lippincott's group at the University of Maryland from '68 to '69. My year at Maryland was productive in spite of the fact that Lippincott was the main proponent of polywater in the US during this time. In 1969, I accepted a job in the Chemistry Division at the Oak Ridge National Laboratory and began research on the structure of molten salts using Raman scattering and infrared spectroscopy. This work was closely related to a large project to develop a molten salt breeder reactor. I very much enjoyed doing fundamental research that was directed at solving a practical problem, but unfortunately the reactor project folded in about '73.

"In '73 I moved to the Solid State Division at ORNL and soon became a group leader of a program on radiation-induced defects in solids. This was a major change in my career since I was now surrounded by solid state physicists and so had to work fast to be able to speak the same language. The conversion must have been a partial success since I was later elected to fellowship in the American Physical Society. Nonetheless, my research eventually took on a more chemical flavor as the project moved from color center physics to the structure of metastable molecular ions, radicals, and charge transfer complexes produced in inorganic solids by ionizing radiation. The motivation for much of this research was to understand how materials behaved in nuclear reactors and how they might behave if used as nuclear waste storage media. But as policy and events moved the US out of the reactor business, the support for reactor-related research vanished.

"Beginning in about '78, I started to look at a class of solids that were called "superionic" conductors. Many of these remarkable materials have ionic conductivities at room temperature comparable to aqueous electrolytes, and so they have important applications as electrolytes in fuel cells, sensors and high energy density batteries. My research activities expanded to include topics such as mass and charge transport properties of solids and the corrosion of lithium and sodium ion conductors in air. This research itself was closely related to the use of beta-alumina as the electrolyte in the sodium sulfur battery which was under development as a power source for electric vehicles. I was able to continue this research for several years and to expand it to include electrode-

electrolyte interfaces even though support for projects related to energy conservation nearly vanished following the end of the Carter administration.

"About two years ago I initiated a change in my research programs which now deal entirely with ceramic thin films and thin film devices. This has required a major retooling and learning effort, but finally the dust is settling a bit and some interesting and, I hope, important results are starting to emerge. One of my projects is to develop a thin film rechargeable lithium battery that can be used as a backup power source for certain types of computer memories and other low-power electronic devices. Recently we succeeded in fabricating a 6-micron thick cell that operates at 3.5 volts and has the capacity to retain the memory in a 64K CMOS static RAM for up to three months on a single charge. Other projects are focused on the synthesis of new kinds of thin film ceramic materials and on understanding the relationships between deposition processes and film properties. Dave Robertson of UK's Chemistry Department plays an important role in this research by applying his PIGE technique to the analysis of our films. Some of the interesting aspects of thin film research from a chemist's point of view are the ability to tailor certain physical and chemical properties and to synthesize materials that cannot be prepared in bulk form. There is renewed interest now in electric vehicles and in energy conservation in general, so I expect to become involved again in the near future with materials problems associated with high energy density batteries.

"On a personal note, Sharon and I have two children, a son who is in graduate school in mathematics at UC Berkeley and daughter who is a sophomore at UT. When I'm not working and the wind is blowing, I'm usually sailing."

Russell May, B.A. 1964, sends his curriculum vitae and some additional comments. After receiving B.A. and M.D. (1968) degrees from U.K., he served a year of internship before entering the U.S. Army in 1969. He was a battalion surgeon in Vietnam, leaving the army in 1971. After a residency at St. Joseph's Infirmary, he has been in the private practice of internal medicine in Louisville since 1974 and is currently on the active staff of Humana Hospital Audubon. A member of several professional societies, he has served as elected delegate of the Kentucky Medical Association. The oldest of his six children, Andrea, has just graduated from Bellarmine College with a degree in accounting and was married this July. Susan has attended Bellarmine as a freshman and plans to enter the College of Nursing at U.K. this fall. The other four, three boys and a girl, range in ages from 6-12. "We have found Louisville to be a wonderful place to work and live but still have fond memories of Lexington and from time-to-time we still get back for basketball games. I recently had a surprise visit from another alumnus who graduated from the

Department of Chemistry in 1964, Peter Diachun, who is currently residing in Youngstown, NY and has his own corporation."

Tom Vanaman, B.S. 1964, sent a copy of his curriculum vitae, from which the following was abstracted. After a Ph.D. in biochemistry at Duke University in 1968, he was a postdoctoral fellow at Stanford University. In 1970 he joined the faculty in Microbiology and Immunology at Duke and became full professor there in 1979. In 1983 he left Duke to join the Department of Biochemistry at the University of Kentucky.

He has held a number of administrative positions. At Duke he was Associate Director of Research at the Duke Cancer Center. He has been chairman of the Department of Biochemistry at U.K. since 1983 and has twice served as acting Associate Dean for Research and Basic Sciences. He has served on the editorial board of the *Journal of Biological Chemistry* and as a consultant for BioSearch Instruments and the Syntex Corporation. His vitae lists over 80 research papers and books, many invited lectures, and grant support from NIH and other agencies throughout his career. He is married and the father of four children.

Barry Purdom, B.A. 1964, after receiving the M.D. from U.K., has been in practice now for 17 years, presently in the solo, private practice of internal medicine in Lexington.

Cary Finder, B.A. 1964, received the Ph.D. in chemistry in 1970 from the University of Florida. He is now Senior Systems Analyst-Computers with Data Transformation Corp. in Silver Spring, MD.

Kevin N. Hennessey, B.A. 1963, is an M.D. in Kensington, MD.

Lawrence J. Bass, B.A. 1963, is an M.D. in Carmichael, CA.

Elmer B. Ratcliff, B.A. 1963, is an M.D. in family practice in Hazard, KY.

NEWS OF ALUMNI AND ALUMNAE

Lombard Squires, B.S. 1929, is retired from E.I. du Pont de Nemours and living in Naples, FL. He is still actively consulting on safety and environmental topics in the nuclear engineering field.

John J. Owen, Ph.D. 1930, died in November, 1991. He was born in Carlisle County, KY, and received the first Ph.D. degree in organic chemistry given by UK. He retired from Exxon, Baton Rouge, in 1959 after a career of petrochemical research in catalytic cracking, synthetic rubber, detergents, and plastics. During WW II he served in several capacities with Esso and the government concerning the development of high-octane aircraft fuels. He held some 25 patents on products and manufacturing processes for Esso and Exxon.

Marvin Dunn, B.S. 1932, was 80 years old on April 28, 1990. He reports that he is still going strong and says that his wife Bettye, who will be 77 in August, 1991, works like two people.

Cornelius (Neil) Fitzgerald, M.S. 1952, recently visited the department on his travels about the country. He retired two years ago after many years at DuPont and currently lives in St. Petersburg, FL.

Robert E. Leary, Ph.D. 1960, died recently. He and his wife Joan were living in Simpsonville, SC.

Carl Ed Wright, B.S. 1967, received the Ph.D. in physical-organic chemistry at the University of Georgia in 1972. He is now Chemistry Lab Supervisor and Plant Chemist with 3M in Camarillo, CA. He is married with two children.

Teofila Rebagay, Ph.D. 1969, won the "Quality Achievement Award" and the bronze medal of the "Westinghouse Signature Award" at Westinghouse Hanford Co. in Richland, Washington.

David Gillum, Ph.D. 1971, is the author of a new book on ICP and is still working at Armco Steel in Middletown, OH.

Dave Green, Ph.D. 1971, spent the 1989-90 academic year doing microwave chemistry with Michael Mingos at the Inorganic Chemistry Laboratory at Oxford. While there, they saw much of London and Southern England, took trips to southern Spain, Paris, Ireland, and Scotland. Dave is back teaching chemistry at Rhode Island College. His wife Kathleen teaches at the local ESL institute and his son Dylan is now in the eighth grade.

Catherine Cooper-Weidner, B.S. 1972, received an M.S. in computer science in 1976 and is now Corporate Vice President for Information Services at Oakwood Health Services Corp. in Dearborn, MI.

Anand Kumar, M.S. 1972, is Director of the Department of Applied Research of Technicon Instruments Corp. in Tarrytown, NY.

Patricia Kumar, M.S. 1973, lives in Monroe, NY. She is an inactive R&D Associate, having been disabled in 1987.

H. Lee Weidner, Ph.D. 1973, is a clinical chemist at Providence Hospital in Southfield, MI. He has completed a graduate certificate in hazardous waste management and in 1990 passed the examination for certification of hazardous materials management.

Frederick Prah, B.S. 1975, received M.S. and Ph.D. degrees in chemical oceanography from the University of Washington in 1978 and 1981. "Using chemistry as one set of eyes, the world continues to amaze me. HuMan's creativity is applaudable but Mother Nature is and will remain unsurmountable."

Kim Kaub, B.S. 1977, has moved from PPG Industries to Paxon Polymers (a joint venture of Allied-Signal and Exxon Chemical) in Baton Rouge, LA. He is the Quality Control Supervisor for high density polyethylene.

Chet Leach, M.S. 1977, received a Ph.D. in toxicology in 1983. He is currently a research specialist in inhalation toxicology for 3M Pharmaceuticals in Lake Elmo, MN.

Dan Martone, M.S. 1979, completed a doctoral degree at the University of Notre Dame in 1988 and is now at the Reaction Molding and Composites Application Development Laboratory of the Dow Chemical Company in Freeport, TX.

Jaweed Ashraf, Ph.D. 1980, works as a Senior Scientist at American Cyanamid in Pearl River, NY. He still does GC-MS, but has also been developing software to link their 600 MHz NMR, FTIR, and GC-MS together. He has also developed software for robotic automation of sample analysis and spectral interpretation.

Edgar Nicholas, Ph.D. 1980, is Quality Control Manager of Ganes Chemicals, Inc. of Pennsville, NJ, a manufacturer of bulk pharmaceuticals. In 1990 he published two papers in the Journal of the Association of Official Analytical Chemists on HPLC analysis of thiamine and taurine. His wife Marilyn had a baby girl in November, 1990. Her big brother is 4 years old.

James L. Huckaby, B.S. 1981, completed his doctoral degree with Asit Ray in Chemical Engineering at U.K. in 1991.

Andrew T. O'Hare, B.S. 1980, received the M.S. in geology in 1982 at U.K. He spent several years exploring for oil and gas in Texas and New Mexico for several firms. For the past four years Andy has been working on environmental policy issues as Senior Regulatory Analyst at the American Petroleum Institute in Washington.

Linda Hamilton O'Hare, B.S. 1980, was married recently to Andy O'Hare (above). The O'Hares reside in Bethesda, MD.

R. Daniel Merrick, M.S. 1981, received the M.D. in 1985. He is now Assistant Professor of Medicine in the J.H. Quillen College of Medicine at East Tennessee State University.

T.I.M.Z. Hossain, Ph.D. 1982, is now with the Nuclear Reactor Facility at Cornell University.

Przemyslaw Maslak, Ph.D. 1982, has been promoted to Associate Professor in the Chemistry Department at Penn State. He anticipates a sabbatical leave with Paul Schleyer in Germany.

Elizabeth Holland Brubaker, M.S. 1984, has been a Senior Chemist at B.F. Goodrich in Calvert City, KY since August, 1990. She is involved primarily in environmental GC/MS in her new job.

Robert Dorzback, B.A. 1984, is a project engineer for Courtaulds Coatings, Inc. in Louisville, responsible for environmental, health and safety affairs.

Troy Harmon, B.S. 1984, has recently joined Akcess Medical Products, Inc. in King of Prussia, PA, where he is Manager of Product Development. Akcess Medical is a small company manufacturing disposable products for dialysis treatment and critical care. He and his wife Lori have a new addition to the family—a baby girl, Sarina, born in January of 1990.

Steve McClanahan, Ph.D. 1984, writes that his work at Procter and Gamble in Cincinnati is going very well. He is in the Oral Health Care Division with responsibilities for various product development efforts. His work is more directly linked with biochemistry, microbiology, toxicology, and pharmacology than with chemistry, but he feels that his education at UK provided the necessary foundation to move comfortably into other areas.

Samuel Mackenzie Warren, B.S. 1984, received an M.S. in pharmacology from Yale in 1986 and an M.D. from U.K. in 1990. He is presently doing an internship in internal medicine at Riverside Methodist Hospital in Columbus, OH. He will start a residency in anesthesiology at Ohio State in July.

A.K.M. Khan, Ph.D. 1985, has taken a position with Isotopes Products Laboratories in Burbank, CA.

Vickie Nienaber, B.A. 1986, was recently awarded a fellowship from the American Heart Association. After receiving a Ph.D. from Ohio State University in 1990, she took a postdoctoral position in the Department of Biochemistry and Molecular Biophysics at the Washington University School of Medicine. She reports that she is enjoying learning and doing X-ray crystallography. She is working primarily with blood coagulation enzymes, trying to crystallize them from scratch or trying to get better crystals. She is also working on the refinement of the structure of a mutant form of dihydrofolate reductase.

Gary Kaufmann, M.S. 1987, is a research chemist for PET, Inc. in Greenville, IL.

Amy Howell Richardson, Ph.D. 1987, is a research chemist for Glaxo Group Research near London, England. Glaxo is the second largest pharmaceutical firm in the world after Merck.

Joe Wyse, Ph.D. 1988, is now Manager of blood products research at a new pharmaceutical firm near Dallas, Lifecell Corporation. He is in charge of membrane research that uses red blood cells as drug-delivery systems.

A. Jeganathan, Ph.D. 1988, has taken a postdoctoral position with Dr. Miller at Notre Dame.

Donna Palmieri, Ph.D. 1989, and **Bruce Young**, Ph.D. 1989, were recently married and are living in Indianapolis. Donna completed a postdoctoral fellowship at Penn State and is now a Senior Research Scientist at Boehringer-Mannheim.

David Kock, M.S. 1990, is continuing study toward the Ph.D. at the University of Wyoming.

Fang Fang Wu, M.S. 1989, is a technician at the VA Medical Center in San Francisco.

Darla Hood Moore, M.S. 1990, is now a chemistry instructor at Pensacola (FL) Junior College.

REMINISCENCES FROM DR. DAVID YOUNG



David Young

During conversations with Bill Wagner, Dr. David Young who received a B.S. degree in 1931 and an M.S. in 1935 reflected on activities of some of the students and faculty of the 1920-30s. The influence of Dr. M. H. Bedford on the students seemed to be among the most lasting memories of Dr. Young.

Subsequent to the conversations, Dr. Young wrote the following letter, dated July 2, 1991, elaborating on the conversations. The bracketed material in the letter was inserted by Bill Wagner, based on the conversations.

Dear Professor Wagner:

About the year 1928 I knew of the good work of Dr. Bedford — Dr. and Mrs. Bedford always had a U.K. student in their home and they gave the student room and board, etc. It was a way to hold good students in the university — as money was often very tight. Over the years I remember the name Luther — maybe Luther was Luther Turner but we called him Jack Turner [B.S., 1928]. Turner left U.K. — went to M.I.T. and received a masters degree at M.I.T. in chemistry. Turner went to Standard Oil Development Co. in Linden, NJ and about the year 1940 he was head of the Commercial Department of S.O.D. Co. I worked for Turner from 1940 till 1945. After the war he was a polymer salesman in Enjay, the chemical sales group of Standard Oil of New Jersey. The year about 1956 or so Turner died and he was taken to his home town in Kentucky for burial. Dr. Tuttle got him in M.I.T.

Gelu S. Stamatoff was the next student I remember that lived at the Bedford house. [Stamatoff was from Bulgaria and the Bedfords assisted in processing papers for him to stay in the United States. He received a B.S. in 1928 and an M.S. in 1930.] He went to Illinois University but went soon to Columbia in New York to get his Ph.D. Dr. Bedford found out about the year 1936 or 1937 that Stamatoff owed Columbia University about \$65 for lab and locker costs that were not paid — so Columbia held up giving him his Ph.D. sheepskin. Dr. Bedford paid the bill and Stamatoff got his degree rather late as he was then working for DuPont in NJ in the year 1936. At that time Stamatoff had a garage in his house and he let me use it one winter about 1937 to store for the winter my Rockne car [a small Studebaker, 1931-33, named for Knute Rockne, sold for about \$600]. At no cost as I lived in Flushing, Long Island. I think Stamatoff died working for DuPont.

Next Charles Morrell — class of 1931 lived with Bedfords. He got an M.S. from U.K. in 1932 and went to Minnesota for a Ph.D. Bedfords paid for an eye operation for C. Morrell. C. Morrell went to work in the chemical division of S.O.D. in Linden, NJ and worked for Dr. Bill Sparks. C. Morrell retired from S.O.D. Co. or Exxon.

After a number of years Bedfords had R. O. Wilson, II in their home. R. O. Wilson, II was my first cousin — his father was a brother to my mother. Wilson was a U.K. student in geology — my uncle married Florence Hedges of Paris, KY and Florence Hedges was related to Mrs. Bedford. R. O. Wilson had graduated from U.K. in agriculture about the year 1919 or 1920. R. O. Wilson was my uncle and he was a county agent in the agriculture program of Kentucky. His only son R. O. Wilson, II is yet alive. He is an oil producer in Illinois, Indiana, and Kentucky — He pumps oil wells for me at this date.

About the year 1931 in August, Dr. Tuttle, Bedford and Barkenbus took me in Dr. Bedford's car to New York City to an ACS meeting and they took me to Standard Oil of New Jersey Building at 18 Broadway to see Murphee — a U.K. graduate, B.S. 1920, that was head of S.O.D. Co. Tuttle told Murphee I would be a good salesman. I later worked for Exxon as a chemist (S.O.D. Co.) and in 12 years issued S.O.D. Co. 100 U.S. patents. S.O.D. Co. gave me a gold watch for this.

Dr. Bedford was a Mason and he liked to help students and he put the practical side of chemistry in their grasp. For example if you required an eye drop for your eyes he would say: "Take one crystal of boric acid and put it in your eye. Why pay for boric acid in water when water is in the eye?" Then he would do it!

We called F. E. Tuttle "Iron Man Tuttle" — he was hard on the students 'till they received the B.S. After that, if you got the B.S., he was your man and he would aid you and guide you. I think Dr. Tuttle was about 75 years old when he took me to N. Y. City to see Murphee and worked to get me a job. Think of that — on the road at 75 working for a chemistry student.

When I was at U.K. I liked physics, so I took some strange courses like: light and optics, radio, physical manipulations, glass blowing, mercury cleaning, etc. So as a senior in 1931 I told Dr. Tuttle I was let out of my physics exam by Dr. Webb as I had made good grades and I wondered if Dr. Tuttle was going to let me out of advanced analysis course exam as I had done all my lab work. He told me NO and if I made an A in the exam I would only get a C in the course for even asking! I made an A but he gave me a C as final grade. So Tuttle did not like to be asked to do things. [Dr. Tuttle, who was head of the department from 1906-1934, considered it a special privilege for a student to major in chemistry, indeed, lucky to be in the department, and he was expected to produce. He would walk through a laboratory and give a surprise test to a student on the spot. He

became very upset if a student did not follow a career in chemistry after graduation. He felt that J. C. Lamb, B.A. 1929, went astray when he married N. Frances Roberts, M.S. 1928, and entered the furniture retail business of Roberts Furniture Store in Lexington.

Dr. Bedford was the first professor in U.K. Chemistry Department to take a woman as a graduate student. He had two girls that were twins and he took time to aid them and help them. This was about the year say 1934 or 1935. Bedford was the first to take a woman as a chemist to be a chemist. Tuttle felt that Bedford had lost his marbles. It looks now like Bedford was way ahead of the times and women are now working as chemists in the labs of industry.

Dr. Barkenbus was a great teacher, Dr. Bedford was a great man but a fair teacher, Tuttle was the dictator but a good one.

Best,
David Young

NEWS FROM FACULTY AND STAFF

Jeff Appling along with graduate student Peggy Harbol and Dr. Alan Goren (Transylvania University) attended the Gordon Research Conference in June, 1990 on Multiphoton Processes in New London, New Hampshire. Jeff played the bass guitar in the "Multiphoton Blues Band" at the conference. The Applings had a baby boy, Yancey, in September 1990. Jeff attended the ACS meeting in Atlanta in April 1991. Rick Edgington from Rockhurst College worked during the summer of 1990 as part of the REU program and returned to Lexington in April to present his work in the poster competition. Danelle Bland from West Virginia Wesleyan College joined the group in summer 1991 as an REU participant. Peggy Harbol gave birth to her first child, Seth Michael, on Christmas Eve 1991. Peggy now lives in Greenville, NC with her husband Kevin.

Leonidas Bachas reports non-competing renewal of his NIH grant. For the second year he obtained a grant from the Division of Materials Research of NSF to provide "Undergraduate Research Experiences in Membrane Sciences" during 1990-91. He is Councilor for the Lexington Section of ACS. During the past year Dr. Bachas' and Sylvia Daunert's students have presented papers and invited talks at the International Congress of Clinical Chemistry in San Francisco, the 1990 International Congress on Membranes and Membrane Processes in Chicago, the ACS National Meeting in Washington, the FACSS Meeting in Cleveland, the Kentucky Academy of Science Meeting, the Pittsburgh Conference in Chicago, and the ACS National Meeting in Atlanta.

Carol Brock presented two papers at the Congress of the International Union of Crystallography in Bordeaux, France in July 1990. She also presented a paper at a symposium on Solid-State Chemistry held at Purdue University in May 1990. Carol was a Tutor at the course "Static, Kinematic and Dynamic Aspects of Crystal and Molecular Structure" held in Erice (Sicily, Italy) during the first ten days of June 1991. In July 1991 she organized a session and gave two papers at a meeting of the American Crystallographic Association in Toledo, OH. Carol was a participant in several talks and panel discussions in celebrations associated with the dedication of an addition to the Wellesley College Science Center in October 1991. She gave recruiting seminars at Austin Peay, Middle Tennessee State University and Western Kentucky University.

Allan Butterfield presented papers at the following meetings in the past year: the Second International Conference on Alzheimer's Disease at Toronto in July, 1990, the International Congress on Membranes and Membrane Processes at Chicago in August, 1990. He organized a symposium at that international congress entitled "Frontier Research at the Interface of Biological and Synthetic Membranes". Allan has been invited to present some of his research at the International Symposium on Recent Advances in ESR Spectrometry in Padova, Italy in September. He has been a finalist in the voting for the College of Arts and Sciences Distinguished Professor. He is the Chairman of the Lexington Section of the American Chemical Society and has organized the ACS seminar speakers for 1991-92. Allan's research on structure and function of membranes is funded by NSF. Three of Allan's Ph.D. students and one M.S. student will complete their degrees in 1991. Dr. Butterfield is the Director of the Center of Membrane Sciences at UK. The Center has been chosen to host the 1992 National Meeting of the North American Membrane Society in May, 1992.

Audrey Companion, with former graduate student Harriet Ades (Ph.D. 1981) and K. Subbaswami of Physics, published two papers in *J. Phys. Chem.* on the structure of coal this year. These results were presented by Dr. Ades at the Atlanta ACS meeting. With C.P. Brock, K. Niedenzu and graduate student David Kock, she co-authored in *Inorganic Chemistry* a study of the BORPOR molecule synthesized by Kim Woodrum in her Ph.D. work. A paper with collaborators Bob Maruca and Vernon Hicks (sabbatical visitors) and Theresia Kusuma (Ph.D. 1986) on the vibrations of CO molecules on nickel surfaces recently appeared in *Surface Science*. Former student, Scott Woehler and his wife Sandy report the birth of their first child, a boy, this past year. Scott now holds a staff position in the NMR laboratory at Northwestern University.

Paul Corio traveled in Italy during the summer of 1991 and presented seminars on his research in the "Theory of Reaction Mechanisms" at the Universities of Milan, Pavia, Padova, Florence, and Rome.

Sylvia Daunert has been appointed Assistant Research Professor at the Department. She continues her membership on the Younger Chemists Committee of the American Chemical Society and has been recently appointed to a second national level committee of ACS, the International Activities Committee. She was recently awarded the Juan Abello' Paseual Prize. She was selected from students presenting theses during the 1990-91 academic year in all Spanish-speaking countries. The award is presented by the Royal Academy of Doctors, the Spanish equivalent of the National Academy of Sciences in the U.S.

Bill Ehmann's radiochemistry group is still engaged in research on relationships of trace elements to neurological diseases. The research is supported by two NIH grants on Alzheimer's disease with Dr. W. R. Markesbery. The LAMMA laser microprobe is now working well and producing interesting data at the subcellular level. Graduate student Dan Van Dalsem received an Oak Ridge Associated Universities/ORNL 1991 summer research fellowship and travel grant to do a portion of his dissertation research at the ORNL HFIR reactor. It was a big year for travel and oral presentations for group members. Bill and Nancy attended the spring 1990 ACS Meeting in Boston where Bill was responsible for the division's 25th anniversary booklet. Bill also presented an invited paper in the symposium on nuclear and radiochemistry education held at the fall 1990 ACS Meeting in Washington, DC. Graduate students presented research papers at the fall 1990 Kentucky Academy of Sciences Meeting at N.K.U. and the March 1991 Pittsburgh Conference in Chicago. Other joint oral papers were presented by colleagues at medical conferences during the year. Recent publications include the *Analytical Chemistry Fundamental Review* of nuclear and radiochemistry with Steve Yates and Dave Robertson (in a reversal of an earlier decision, *Analytical Chemistry* will continue this review), a paper by Subhash Khare, et al. on trace elements in ALS, a paper by Diane Vance, et al. on longitudinal variations of trace elements in AD finger nails, a paper by Dave Wenstrup, et al. on trace elements in isolated subcellular fractions of AD brain, a chapter by W.D.E on derivative activation analysis in the Alfassi book *Activation Analysis* and assorted review papers and published abstracts with Co-PI colleagues. The big event of the year for Bill and Nancy was a trip to Australia to attend the Meteoritical Society Meeting in Perth. Bill also presented a seminar at the Australian Atomic Energy Facility near Sydney. Visits were also made to Canberra where they spent a Fulbright year in 1964-65 (Australian National University) and to Adelaide where they visited with John Lovering, a former research colleague who is now President of Flinders University. Several students accompanied them to the MARC-II Radioanalytical Chemistry Conference in Kona, Hawaii in April 1991 where the group

presented three papers. Former Ph.D. student, Jim Tanner, was the conference chairman. Bill also presented an invited paper and a contributed paper at the International Conference on Modern Trends in Activation Analysis in Vienna in September 1991. Bill has also been elected to the International MTAA Committee. Bill and Diane Vance have completed the book *Radiochemistry and Nuclear Methods of Analysis* which was published by John Wiley and Sons as part of the Chemical Analysis Series. The book should be available in August, 1991. Finally, Bill has a sabbatical leave for the spring semester, 1992, and will spend short periods doing collaborative research at ORNL.

Tom Guarr presented invited talks at the International Meeting of the Electrochemical Society in Montreal, the Gordon Conference on Electron Donor-Acceptor Interactions in Newport, RI, and the ACS Joint Central-Great Lakes Regional Meeting in Indianapolis. Five contributed papers were also presented at various meetings. Additional travels included seminar trips to the University of Florida, the University of Rochester, and Northwestern, among other places. The first graduate from the Guarr group, Ms. Darla Moore, earned a Masters degree in September 1990 and is currently teaching chemistry at Pensacola Junior College. Ms. Huawen Li earned the first group Ph.D. in July 1991 and is now working for PPG in Monroeville, PA. Another student, Mr. Rongguang Lin, earned his Ph.D. in September and is now employed as a postdoc at the Center for Applied Energy Research. The Guarrs have been renting the Clouthier's house while Dennis and Debbie are on sabbatical in Vancouver. However, Tom and Amy recently bought a house in case the Clouthiers decide to return. Meanwhile, Joseph, now 5, has kept busy terrorizing the Clouthier cats. Joseph's other major accomplishment during the past year has involved his language skills—he now reads at a third or fourth grade level. Meghan Elizabeth Guarr (8 lb. 12 oz.) was born on June 27, 1991, and was delivered by her father. Despite that, both mother and baby are doing extremely well. Joseph is happy being a big brother, and has fully recovered from his parents' rejection of the name "Boomer" for the new baby.

Bob Guthrie reports that "I feel I'm making some progress in getting my research program revitalized. I presented two papers at the SE-SW regional ACS Meeting in New Orleans in December 1990. I have been the beneficiary of a grant from the Department of Energy for work on the mechanism of coal liquefaction and another from the Kentucky Water Resources Institute on the use of high-energy radiation sources for degradation of environmental pollutants. I was a visiting scholar at Notre Dame Radiation Laboratory in June as part of the water resources work, but they sent me home after three days because I broke the accelerator. They gave me another chance in early August and the

machine worked better this time. These activities, coupled with the responsibility of being chairman, made me feel guilty about taking the two weeks of vacation Roberta and I had planned for mid-August. However I went anyway. The last of my kids graduated from college this spring so I decided to act rich for a while. Unfortunately, we arrived on Cape Cod at the same time as my namesake, Hurricane Bob.

Jim Holler was named to the editorial board of *Mikrochimica Acta*, an international journal of analytical chemistry.

Jake Meadow, retired and living in New Mexico, sent pictures of himself and an oil painting which he had completed. He reports that he plays golf several times each week.

Bill Plucknet and Evaline have moved to Sadieville, KY, into a new house on property that they have owned for many years. A large garden and a lake on the property provide recreation. Evaline may have caught enough fish to feed Sadieville for several years. Bill was recently feted at a surprise party in honor of his 75th birthday. The gag gifts he received were the faculty's response to the years of abuse they had suffered at Bill's hands.

Dave Robertson reports this has been a year of important additions. "In May, we rejoiced with the arrival of our second child, Kirsten Laura Robertson. With almost the same level of enthusiasm, I celebrated the completion of the ion beam analysis facility at the UK Van de Graaff accelerator and the addition of four graduate students and one research associate to my research group. Some work was accomplished throughout all of these changes. I presented an invited paper on our work in thin-film microbatteries at the 11th International Conference on the Application of Accelerators in Research and Industry. In addition, our collaborative work with Mike Jay on transdermal drug delivery was presented at the November AAPS meeting and our collaborative work with Vahid Majidi on high-temperature reactions on graphite substrates was presented at the recent Pittsburgh Conference."

Jack Selegue hosted the National Science Foundation Organometallic Chemistry Workshop in Lexington in May, 1990. He presented or coauthored presentations at that workshop, at ACS National Meetings in Boston and Washington, at the Catalysis Society North American meeting, at the Department of Energy/Basic Energy Sciences Organometallic Chemistry and Homogeneous Catalysis Research Conference, and at the Kentucky Academy of Sciences annual meeting. He also presented research seminars at Marshall University, Cleveland State University, University of Toledo, Fisk University, and Vanderbilt University. He was an invited speaker at the 1991 Gordon Conference on Organometallic Chemistry. His research has been supported by grants from the U.S. Department of Energy, the NSF-EPSCoR program, the Center for

Applied Energy Research, and the National Institutes of Health (Biomedical Research Grant Program). He is principal investigator on an NSF-funded grant to upgrade the department's XL-200 NMR spectrometer to a Gemini-200. He was promoted to Professor in 1991. His wife Edith continues to take classes at UK, perhaps leading to a degree in library science. His son Paul, now 4, continues to be interested in everything in the world.

Bill Wagner was the guest of his daughter, Jennie, a violinist in the Chicago Symphony, on a concert tour on November 21-30, 1990 to Leningrad, Moscow, Budapest, and Vienna. In addition to enjoying the concerts, he had time to visit the museums, historical homes, and other sights in the cities. Highlights were the tours of the Hermitage in Leningrad, the Kremlin, and cathedrals in Moscow, the gypsy music in Budapest, and tours of the opera house and homes of Mozart and Beethoven in Vienna. Bill was recently feted by the department on the occasion of his seventieth birthday.

David Watt's research group now has 5 postdoctoral fellows and 6 graduate students. There have been a number of changes in the past year as Ewa Kolaczowska returned to Poland after a two year stay, O.-S. Park returned to South Korea, and A. Jeganathan took a postdoctoral position at Notre Dame. The Watt group welcomed Hideo Nakamura from Hokkaido University, Ivan Stoilov from the Bulgarian Academy of Sciences, and Alain Ravard from the University of Rouen. Peter Crocker has just completed work on his Ph.D. and has taken a postdoctoral position with Professor

Miller at Notre Dame. Watt's group continues with financial support from NIH, Chevron Oil Field Research Company, the Kentucky Equine Drug Council, the American Horse Show Association, and North Atlantic Treaty Organization. Work supported by the equine groups has now led to an independent, for-profit corporation, WTT, Inc. here in Lexington, Kentucky. Watt and his students have presented their work at various meetings including the American Society for Biochemistry and Molecular Biology meeting in New Orleans, the International Union of Pure and Applied Chemistry meeting in Helsinki, Finland, and the Heterocyclic Chemistry conference in Prague, Czechoslovakia.

Steve Yates in August 1990, returned from his year-long sabbatical working in the Nuclear Chemistry Division at Lawrence Livermore National Laboratory in California. His duties at the national level have increased during the past year, and his frequent flyer mileage has steadily grown. (See article elsewhere in this Newsletter.) Steve presented invited talks at the Seventh International Symposium on Gamma-Ray Spectroscopy and Related Topics at Asilomar in 1990 and at the Symposium on Recent Advances in Nuclear Structure Research at the Atlanta ACS Meeting. In March 1991, Steve traveled to Chiang Mai, Thailand as a member of the International Atomic Energy Agency's Advisory Group on Low Energy Accelerators in Elemental Analysis. Steve's research is supported by grants from the National Science Foundation.

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 UK _____

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 No. 51