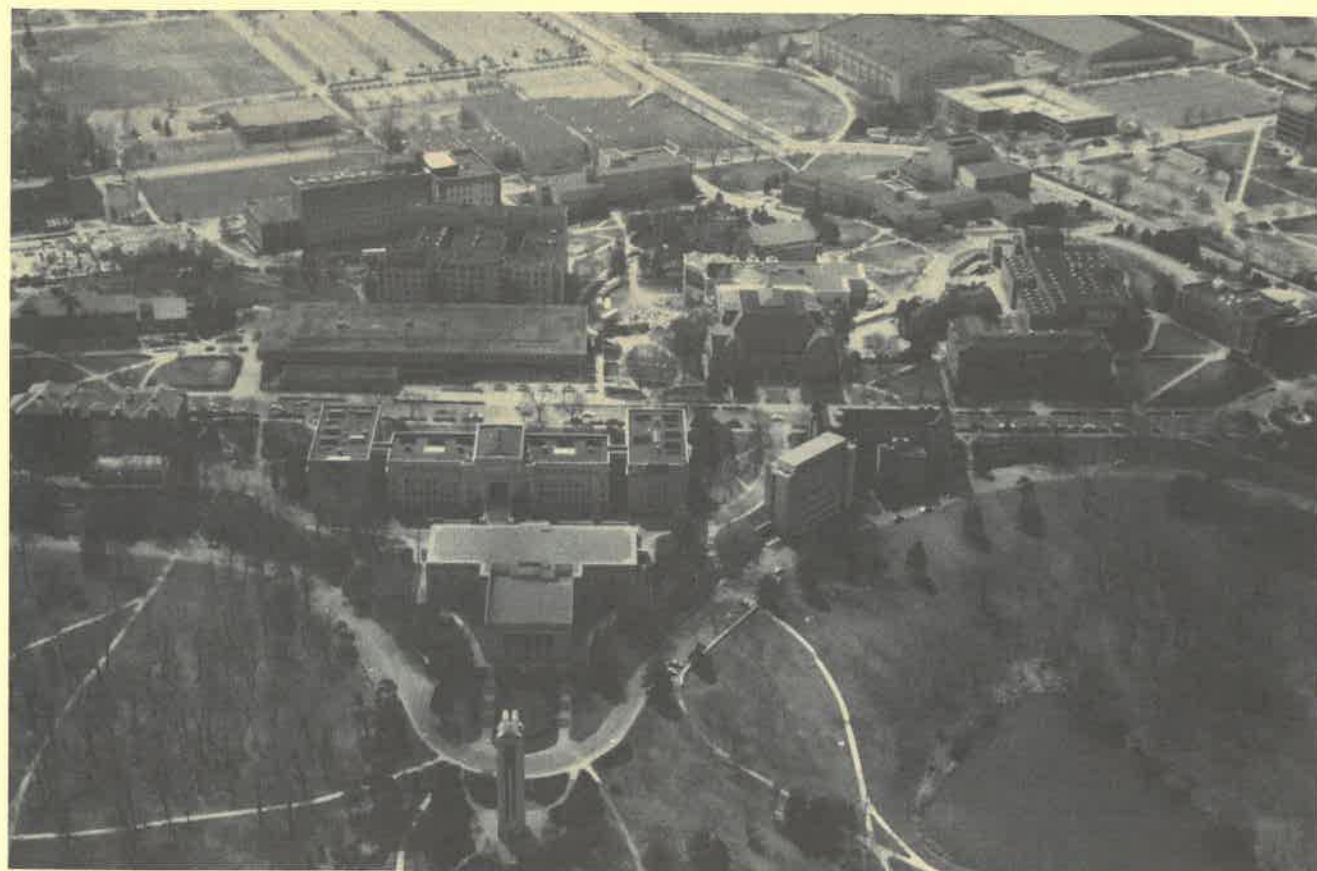


ALUMNI NEWSLETTER  
DEPARTMENT OF CHEMISTRY  
UNIVERSITY OF KANSAS

JUNE 1990



KU  
CHEM  
HAWK



1989 aerial photograph of the campus looking south (courtesy of the Lawrence Journal World). In reference to new buildings described in the newsletter under Changes on Campus, one can see the Dole Building (under construction) as a light area near the left margin; the new Science Library is just visible behind Hoch Auditorium; the new parking garage and the Anschutz Sports Pavilion are in the upper right of the photo, near Allen Fieldhouse; and New Green Hall (dark windows) and Burge Union are at the right margin, near the top.

Dear Alumni and Friends,

The Chemistry Department Newsletter is appearing earlier this year for several reasons. Perhaps the most important among them is the fact that Grover Everett accepted the responsibility for the Newsletter and its reorganization. As you will see, this year's edition is very different from our previous Newsletters in both format and content. You will find expanded sections on news of the faculty and contributions from each of you who responded to Grover's letter last December. He has put together an outstanding Newsletter that I'm sure each of you will enjoy.

The Department has begun a national search for a physical chemist. We also plan to add new faculty over the next decade as our graduate program and undergraduate offerings evolve to meet the needs of a changing and dynamic profession. As you know, we had several retirements in the nineteen eighties. We begin this decade with one more when University Distinguished Professor Paul Gilles becomes an emeritus member of the faculty at the age of 69 after 43 years of service to the Department and the University. He will maintain his activities in research through a contract with the National Institute of Standards and Technology (formerly the NBS). On June 8th, the Department will honor Paul with a reception complete with testimonials from friends, colleagues, and family to his many important contributions. A special K.U. Endowment Scholarship fund has been initiated through the efforts of Professor Marlin Harmony that will be used to support a graduate student in physical chemistry. If you would like to contribute to the Helen and Paul Gilles Fund, please return the last page of the newsletter indicating your intentions along with your contribution to the KU Endowment Association.

The Department's offerings in scholarship funds have grown by two this year. The Fasnacht Scholarship aids undergraduate chemistry majors early in their career and the Snyder Scholarship provides support for a woman who has chosen chemistry for her major field of study.

One of the two projects undertaken by the chair has been the Long Range Plan, a 10-year prospectus on the goals and aspirations of the Department. At this writing, it is nearing completion and will be made available to those interested at the end of the summer. As part of the 10-year plan and as an effort to increase our interaction with industrial chemists, we have also initiated an Industrial Associates Program. The first meeting, a planning session, was held on May 4th and 5th in Lawrence. The panel reviewed our current status and the preliminary draft of the Long Range Plan. They heard from the new faculty and discussed the role of the Associates Program in assisting us with our future development and growth. The conference was capped by the annual Honors Banquet at the Kansas Union that featured an address by Paul Gassman, President of the American Chemical Society, on the topic "Is Chemistry Ready for the 21st Century?"

Earlier in the Spring, the Department was

saddened by the loss of former associate chairman and faculty colleague Dr. J.K. Lee. Details of his death are found later in the Newsletter. A K.U. Endowment Memorial Fund commemorating Professor Lee (known to many of his friends simply as "J.K.") was started by his family, friends and colleagues to be used for a graduate student scholarship in the Chemistry Department. His wife, Ingrid, and their son, Oliver, a freshman at Trinity University in San Antonio, maintain their residence in Lawrence. Ingrid will continue to travel between Hong Kong (J.K.'s home) and Austria.

The graduate program has had a very productive year. Eight students have received their Ph.D.'s and two have been awarded M.S. degrees at this time. Most of the graduates went directly into industrial positions while a few of the new Ph.D.'s have gone on to postdoctoral research positions. Our entering class next Fall promises to be a little larger than in the past several years due to the strong efforts of Associate Chairman Peter Hierl and his Admissions Committee. We had several outstanding applications for our graduate scholarships, four of whom have been awarded Bailey-Phillips or Berger Scholarships for Fall, 1990.

Our B.A. and B.S. graduates this Spring are a distinguished group. Somewhat increased over recent past years, the number of new graduates was nearly 40, and several have distinguished themselves academically and professionally, for which they received well-deserved recognition at the Honors Banquet. You will find details of the awards later in the Newsletter. Particularly noteworthy were the efforts of Jennifer Tiller and her colleagues in organizing our ACS Student Affiliate Chapter over a two year period of hard work. They topped off the Spring semester with their own version of a "chemistry outreach" program, a week of several seminars culminating with a visit to Malott Hall by area junior high science students who witnessed the famous "Bricker" Chemistry Demonstrations.

On a much less optimistic note, the report on the State support for higher education is very discouraging. The scheduled third year of the Margin of Excellence funding proposal to bring the support of the Kansas Universities into line with their neighboring peer institutions was not implemented. In addition, the Legislature imposed a 1.75% decrease on the previously approved austere budget for the next fiscal year. Fortunately, the number of funded research projects has increased significantly, as well as Alumni and Endowment support. In fact, the income from these sources now accounts for nearly 40% of the income to the Department.

Once again, let me invite you to send news items about yourself. We are already collecting items for next year's newsletter and would appreciate your contributions very much. Take a few moments and jot a line or two.

May 15, 1990

Richard S. Givens, Chairman

From the Editor:

The response to my earlier questionnaire was outstanding! Many excellent suggestions regarding Newsletter content were made. It appears that the most popular items by far are News of Alumni, News of Faculty, and the Chairman's Report. Feelings were mixed (and in many cases negative) regarding other traditional items. In this newsletter I have given top priority to Alumni News and updates on changes in Lawrence, the University, and the Department. Space limitations have resulted in omission of some of the traditional items. I have tried to include all the alumni news I received, and I take full responsibility for any errors in interpretation. Space does not permit inclusion of addresses in the Alumni News section, but the Department will gladly provide these if you contact us. This edition includes research synopses of three of our younger faculty members. Next year, other research programs will be described.

In order to make my job easier next year, I will ask you to write your personal news *in the form you would like for it to appear* in the Newsletter. Items in this year's newsletter should serve as a guide for format and content. I continue to welcome your comments on the content of the newsletter.

Grover W. Everett

#### RECENT DEVELOPMENTS IN LAWRENCE

Many of you have not returned to Lawrence for years, so I will attempt to summarize major changes as I see them during the last dozen or so years. Lawrence's attempts to improve downtown Massachusetts Street have been very successful. City Hall is now a modern (1980) building at the north end of town by the river bridge. Trees planted along the sidewalk in front of the shops have grown noticeably. Interesting specialty shops continue to multiply, and excellent restaurants such as the Paradise Cafe and Laciece have appeared. The renovated Eldridge Hotel now has elegant accommodations often used by the Department of Chemistry to house distinguished visitors. The old downtown bus station has been imaginatively converted to the Free State Brewery, which functions as a meeting place and eating establishment in addition to a small brewery. It serves its own excellent specialty beers and ales. The old Bowersock Opera House, known in the 60's as the Red Dog, has been extensively renovated in art deco fashion and has become Liberty Hall, a theater for European films and the performing arts.

Lawrence has successfully resisted repeated attempts by developers to construct a "cornfield" mall on the outskirts of town. Instead, an enclosed "Riverfront Mall" has just been completed along the Kansas River to the east of City Hall on the site of the former warehouses and mill buildings. The new shopping center features an open promenade along the river.

The river "bridge" is now actually two bridges; the two spans (each one-way traffic) are extensions of Massachusetts and Vermont Streets on the south side and converge on the north side of the river. On the

north side of the river a bicycle path on top of the levee extends 5 miles in either direction, and there is also a well-maintained footpath along the river. To the west of the bridges on the south side of the river, the shoreline for about a mile has been developed into a riverfront park and is the site of Lawrence's annual "Independence Days" festival. This is a 3-day, turn-of-the-century event centered around the Fourth of July and includes the traditional fireworks display, which is no longer held in the KU stadium.

Efforts by residents of Old West Lawrence to restore a number of their Victorian homes (in traditional Victorian colors) have been very successful, and during the Christmas season, tours of these homes are given. Another older home has been converted to an elegant bed-and-breakfast establishment, the Halcyon House, at 10th and Ohio, just down the hill from KU.

Lawrence continues to expand westward. The Wakarusa River was dammed more than 10 years ago at a point about 5 miles southwest of Lawrence in order to create Clinton Lake. The lake, which is bordered by heavily-forested recreation and camping areas including a state park on the north side, is most easily reached by Clinton parkway, an extension of 23rd Street west of Iowa Street. Westward development along 15th Street has led to an area of expensive homes, golf courses, and the Oread West Research Park that includes Oread Laboratories Inc. Oread Labs, which was founded by the late Professor Higuchi from KU's School of Pharmacy and the Department of Chemistry, is engaged in several areas of research concerning development of new drugs and of procedures for analysis of therapeutic agents. Oread Labs is adjacent to the former "Dragstrip Road" which is now a paved, 4-lane, north-south thoroughfare named Wakarusa Drive. Fifteenth Street continues west of Wakarusa Drive and is the proposed site of second high school for Lawrence.

Other notable changes and additions to the Lawrence community include Sallie Mae (a student loan organization), a Holiday motel and convention center near the west turnpike exit, three Dillons supermarkets (the Rusty's supermarket chain no longer exists), 15 movie theaters, and numerous Chinese restaurants. The fast-food places along 23rd street "strip" change only in ownership, and Lawrence's erratic weather pattern is much the same.

Some of you may be interested in two excellent books on the history of Lawrence or KU: *Lawrence*, by David Dary (1982; Allen Books, 1617 Hillcrest Road, Lawrence), and *On the Hill*, by Virginia Adams, Katie Armitage, Donna Butler, Carol Shankel, and Barbara Watkins (1983; University Press of Kansas, 303 Carruth Hall, Lawrence).

#### RECENT CHANGES ON CAMPUS

The student population at KU continues to increase each semester, and 26,320 students were enrolled in 1989. The 1990 edition of the *Fiske Guide to Colleges* gives KU a "four-star" academic ranking, which not only places KU at the top of the Big Eight Conference but also puts KU among the top eight US colleges and universities in its price range.

During the 1980's, KU experienced a tremendous building boom (\$63 million) in addition to extensive renovation (\$19 million). Those of you who have not visited KU in the last decade will want to see the Adams Alumni Center and the Spencer Museum of Art on your next visit. Both are beautiful and well maintained buildings. The Adams center, located diagonally across 13th Street and Oread Avenue from the Kansas Union, offers elegant dining and catering facilities for members. Be sure to see the collection of historic Lawrence and KU photographs along the hallway on the first floor! The Spencer Museum has an extensive permanent collection of renaissance to modern art and also features short-term exhibits of a variety of art. Spooner Hall, the former art museum (and once KU's main library), is now the Museum of Anthropology. (Some of you may be pleased to hear that old Comanche, the horse that survived the Battle of the Little Bighorn, still resides in Dyche Hall across the street from Spooner as does KU's famous natural history diorama and fossil reptile collection.)

Several relatively-new campus buildings near Allen Field House include a satellite student union (Burge Union) at the base of Daisy Hill northwest of Allen, the Anschutz Sports Pavilion (a large, open building for track and field competition) just west of Allen, Quigley Field baseball stadium south of Allen,

and a recently-completed multi-level parking garage directly north of Allen. The Law School is now located in New Green Hall (completed in 1977), about 2 blocks northwest of Allen. Robinson gym has expanded to include more recreational facilities of all types including two swimming pools.

New buildings closer to Malott include an addition to the west end of Haworth (life sciences) which was completed in 1985. This is directly south of Malott and connected to Malott by an enclosed bridge. A brand-new Human Development Center, named after Senator Dole, now occupies the former site of the KU maintenance garages southeast of Malott, and the new Anschutz Science Library lies between Malott and Hoch Auditorium.

Be sure to include a tour of the new science library on your next visit! Entry is gained through an all-glass corridor leading to the main (third) floor where one immediately experiences an atmosphere of sunlight and spaciousness. In this area, in various directions, are the main service desk, an information desk, a photocopying center, and a series of computer terminals that replace the old card catalogs. Most of this floor is dedicated to reference series such as Chemical Abstracts, Beilstein, etc. Moving up one floor through the glass-enclosed stairwell, one enters an attractive reading room for current periodicals.



Anschutz Science Library (the SW corner of Hoch Auditorium may be seen at the right)

One entire wall of this fourth floor is made of glass and looks down into a portion of the main floor below. Most of the bound journals are found in stacks on the lower two floors. The library also has several seminar and conference rooms, and there seems to be plenty of comfortable seating on all levels.

An expanding complex of chemical, bioanalytical, and pharmaceutical research laboratories west of Iowa Street (at 21st Street) include McCollum Labs, Smismann Labs, and INTERx Research Corporation, a subsidiary of Merck and Company, Inc.

#### CHANGES IN MALOTT HALL

Those of you who have not returned to KU for a long time may be unaware of the significant physical changes that have taken place in Malott Hall during the past two decades. In the early 1970's, two additional floors were added to the west wing of Malott. This provided new research laboratories and offices for Professors Adams, Harmony, and Schowen in addition to several faculty members of the Department of Physics. Departmental meetings and seminars were subsequently held in a spacious new room on the top floor. Several years later, in 1979, construction began on a large addition to Malott that eventually connected to the east and west wings and extended south into the

former parking lot and grass area. The new addition houses the Pharmacy School and an animal care facility. The Science Library expanded into the new sixth floor area where it remained until last fall when it moved to the new Anschutz Library. During this construction, the older sections of Malott were upgraded with new, double-glazed windows and powerful new hoods. In terms of square feet of space, Malott Hall is now KU's largest building.

During the 1970's and 1980's, the Department of Chemistry, backed by other science departments, obtained funding to create several service laboratories designed to support the research effort at KU. They are all located in Malott and include the Crystallographic Lab, the Enzyme Lab, the Instrument Design Lab, the Mass Spectroscopy Lab, and the NMR Lab. Each is directed by a staff member with a Ph.D. degree in his specialty.

Aside from these changes and renovation of a few research laboratories, most of the physical facilities occupied by the Department of Chemistry have remained essentially the same for at least 20 years. The chemical stockroom is still in the basement; the apparatus stockroom is on the sixth floor; the general chemistry labs are on the second floor around the corner from the departmental office; and the organic teaching labs are on the fourth floor. A few of the



Technical Staff (left to right): David Vander Velde (nmr), Todd Williams (mass spec), Charles Decedue (enzyme lab), Kenneth Ratzlaff, (electronics design), Fusao Takusagawa (crystallography).

faculty have relocated their offices and/or research labs, but most occupy the same space they had 20 years or more ago.

The space vacated by the Science Library on the sixth floor is currently being remodeled. Some of this space will be turned over to the Department of Chemistry in the near future.

#### NEWS OF ALUMNI

##### 1930-1939

JOSEPH F. DECK (Ph.D. 1932) retired in 1972 from Santa Clara University, where he was Chairman of the Department of Chemistry from 1936-1972. He was named Chemist of the Year at St. Louis University in 1965 and was awarded the degree of Doctor of Science at Santa Clara in 1986. He still teaches (part time) a course in heterocyclic chemistry, a subject he began at KU under Professor Frank B. Dains in 1930.

W.C. LANNING (M.A. 1936, Ph.D. 1938) who received his Ph.D. 51 years ago is enjoying retirement after a career of research at the Naval Research Lab, Phillips Petroleum Company, and the U.S. Department of Energy. He now bicycles and plays golf and bridge in addition to traveling (most recently to New Zealand).

MERRITT E. ROBERTS (B.A. 1929; M.A. 1931; Ph.D. 1937) retired in 1972 after a long and successful career in vaccine production and medical research, beginning at Lederle Labs. He was made a member of the New York Academy of Sciences in 1932 (and is now an Honorary Lifetime Member) and has been listed in *American Men of Science*. He has authored numerous publications in the medical field. Currently, he is heavily involved in volunteer work in Lompac, CA.

##### 1940-1949

ELIAS BURSTEIN (M.A. 1941) retired in 1988 from teaching in the Physics Department of the University of Pennsylvania, but he continues an active research program there in condensed matter physics. Last spring he spent two months at the Max Planck Institute at Stuttgart supported by a Senior U.S. Scientist Award from the Alexander von Humboldt Foundation. He is still Editor-in-Chief of *Solid State Communications* and Co-Editor of *Comments on Condensed Matter Physics*.

WILLIAM H. BURTON (B.A. 1949) has taken early retirement from Farmland Industries and is in total disability from three major operations.

WARREN K. LOWEN (Ph.D. 1949) retired in 1980 as a Director of Research for DuPont and is now living on Lake Murray, about 20 miles from Columbia, SC. He and his wife Dixie, who worked for the KU Chemistry Department during 1946-1949, also

have a small home in the Great Smoky Mountains near Pigeon Forge, TN. They have become staunch supporters of the University of South Carolina.

CORREL N. ROBINSON, JR. (B.A. 1936; M.A. 1938; Ph.D. 1941) has retired and is living in McAllen, TX, after a long career beginning with chemical research, then as a Chemist for the city of Topeka in charge of water purification (1947-1986). During most of his career, he owned Robinson Laboratories, a small business that produced medical laboratory stains and reagents.

ROBERT J. SLOCOMBE (M.A. 1941; Ph.D. 1943) retired in 1979 after 36 years in research at Monsanto and began studying philosophy at the University of Missouri at Saint Louis. This activity led to a bachelor's degree in 1986. He continues study in areas such as philosophy of science, epistemology, metaphysics, etc., while also pursuing hobbies in music, photography, gardening, and travel. His memories of KU include Dr. Cady's chemistry class in 1935 and Dr. Cady's classic definitions of important chemical terms.

##### 1950-1959

JAMES EARL BARNEY (B.A. 1946; Ph.D. 1951) will retire in 1991 from his position as Manager of the CIBA-GEIGY Toxicology Services Laboratory in Farmington, CT. He was involved in designing the laboratory in 1978, and since that time five different companies have assumed ownership. During his retirement, Earl plans to write a book (subject not yet selected) and to continue his extensive volunteer work for the Methodist Church and the Connecticut community college system.

C. PATRICK BURNS (B.A. 1959) is Professor of Medicine and Director of the Division of Hematology-Oncology at the University of Iowa. Currently, on a project funded by NIH, he is studying membrane lipids in tumor cells.

RONALD J. CLARK (B.A. 1954; Ph.D. 1958) is Professor of Chemistry at Florida State University. He recently finished a six-year term as Associate Chairman of the department and returned (with joy) to full-time teaching and research in superconductivity. His research is currently funded by DARPA.

NORM GRISWOLD (B.A. 1957) has resigned as Head of the Department of Chemistry at Nebraska Wesleyan University after 10 years in that office. He will return to full-time teaching after his current sabbatical leave.

LOREN HEPLER (B.A. 1950) is Professor of Chemistry and Chemical Engineering at the University of Alberta. In May of 1989 he presented the Convocation Address and received an Honorary D.Sc. Degree at the University of Lethbridge.

JAMES E. LOVETT (B.A. 1952) retired in the spring of 1989 after more than 16 years

with the International Atomic Energy Agency (United Nations) in Vienna. He still works as a part-time consultant in the nuclear safeguards field.

JOHN L. MARGRAVE (Ph.D. 1951) is E.D. Butcher Professor of Chemistry at Rice University and both Chief Scientific Officer and Director of Materials Science Research at the Houston Area Research Center. His current research involves CVD diamond, levitation of liquid metals, reactions of metal atoms and small clusters with H<sub>2</sub>, and direct fluorination.

KENNETH L. MARSI (Ph. D. 1956) is in his 14th year as Chairman of the Department of Chemistry and Biochemistry at California State University at Long Beach, a school with 35,000 students and 26 full-time chemistry faculty. His wife, Irene, is Personnel Director for the Childhood Development Centers in Long Beach. Including Ken, there are five chemists in his immediate family, probably a record for KU alumni!

PAUL J. RICHARDSON (M.S. 1951) has retired this year after two careers. He left KU in 1950 and worked as a Chemist/Radiochemist until 1973, when he entered Law School at the University of Toledo. After receiving his J.D. in 1975, he was in private practice as an attorney in Sandusky, OH, until 1981. He then became involved in nuclear power plant licensing for the Mississippi Power and Light Company until 1989.

HARRY ROBSON (Ph.D. 1959) is in his fourth year as Instructor for general chemistry at Louisiana State University in Baton Rouge. He spent 3 months last summer as a guest professor at ETH in Zurich.

CLARE A. STEWART, JR. (Ph.D. 1954) is a Senior Research Fellow at duPont where he has spent 36 years in Research and Development, mostly with synthetic elastomers and related polymer chemistry.

SHIRLEY WRINKLE (B.A. 1953) teaches chemistry in high school and is Chairman of her Science Department. She is a member of an ACS subcommittee that creates the ADV ACS/NSTA high school chemistry examinations, and she also is on a committee involved in writing laboratory experiments for high schools in Kentucky. In 1989 she received a Presidential Award for Excellence in Science and Mathematics Teaching.

##### 1960-1969

BROOKS BECKER (Ph.D. 1960) is President of RMT, Inc., which specializes in environmental engineering and provides services to industry nationwide with six offices and 430 employees. RMT recently moved into a new building in Madison, WI, which includes a 25,000 sq. ft. analytical and applied chemistry laboratory.

NORM BEHN (Ph.D. 1968) and CHERIE BEHN (M.S. 1968) live in Ft. Wayne, IN, where Norm represents a company involved in plastic molding and processing silicone/fluorosilicone elastomers. He is currently on the Executive Committee of the Society of Plastic Engineers. Cherie is teaching advanced-placement chemistry and physics at Bishop Dwenger High School. She was selected to attend a Labnet Seminar Workshop at Tufts University last summer.

JO A. BERAN (Ph.D. 1968) is Professor of Chemistry at Texas A&I University. He spent the 1985-86 academic year as a Research Fellow at the Joint Institute of Laboratory Astrophysics at the University of Colorado, and during the 1988-89 academic year Jo was a Visiting Professor at the University of Texas at Austin. His recent publications in the area of general chemistry include a *Laboratory Manual for Fundamentals of Chemistry* (1988), a *Laboratory Manual for Principles of Chemistry* (1990), a *Study Guide to Accompany General Chemistry* (1988), and *Lecture Notes to Accompany General Chemistry* (1990). Jo still plays racquetball and City League basketball and follows Jayhawk basketball. His son, Kyle, is following in his father's footsteps as a chemistry graduate student at KU!

SHELDON H. COHEN (Ph.D. 1962) is Professor of Chemistry at Washburn University of Topeka and is currently National President of Phi Lambda Upsilon, the Honorary Chemical Society.

GENE LARRY COTTAM (B.A. 1962) is Professor of Biochemistry at the University of Texas Southwestern Medical Center in Dallas. His daughter, Melinda Kay Cottam, is currently a student at KU

PAUL D. COULTER (Ph.D. 1965) changed jobs last October from Vice-President of Technology for UCAR Carbon (subsidiary of Union Carbide) to Corporate Director of Audit Compliance and MIS for Health, Safety, Environmental and Product Safety, Worldwide. He is responsible for insuring that all Union Carbide Worldwide locations are in compliance with all laws and Union Carbide rules and directions in the areas of health, safety, and environmental safety.

DONALD N. DEMOTT (Ph.D. 1963) is Manager of Enhanced Oil Recovery Chemicals at Chevron Chemical Co. in San Ramon, CA. This branch of Chevron started in 1985 and has now grown to a global business.

FLOYD FARHA (Ph.D. 1965) took early retirement from Phillips Petroleum Company in 1986 and now works for the Oklahoma Department of Commerce in two capacities: Director of the Inventors Assistance Program and Director of the Energy Development Program. Both are economic development activities. One assists in commercialization of inventions; the other utilizes oil overcharge

monies as seed capital for developing new energy-savings technologies.

**LARRY KEVAN (B.S. 1960; KU Faculty 1965-1969)** is Cullen Distinguished Professor of Chemistry at the University of Houston. He received the Sigma Xi Research Award in 1989 and presented Plenary Lectures at international conferences in England, Italy, The Netherlands, and Siberia in addition to several in the U.S. Currently he lists over 440 research publications including four books.

**JOHN N. MARX (Ph.D. 1965)** is an Associate Professor of Chemistry at Texas Tech University. He recently wrote and sold a computer program designed to extract call number information from library catalog systems and to print the information on labels to affix to books. The program was written initially for use by his wife's department in the Texas Tech library.

**IVAN C. NORDIN (Ph.D. 1961)** took early retirement from Warner-Lambert-Parke Davis in 1986, then taught part time at Hope College. He is currently a part-time Consultant Chemist for Koch Chemical Company.

**CAROL CALHOUN POWERS (Ph.D. 1969)** is currently a Group Leader in Product Development for the Fasson Roll Division of Avery International in Painesville, OH. Her work involves development of materials used to make specialized labels for a large variety of applications. She and her husband Larry have two children: Dan, a freshman at the University of Cincinnati, and Kathy, a junior in high school.

**J. PAXTON SCOTT (B.A. 1962)** is currently Executive Vice President of Affinity Plus, Inc., a new company that provides PC-based software for market analysis, portfolio accounting, and electronic transmission of news, SEC filings, and other documents.

**KARL E. SPEAR (Ph.D. 1967)** is currently Professor and Chairman of the Ceramic Science and Engineering Program at Pennsylvania State University. After leaving KU he spent 3 years at Oak Ridge National Laboratory as a Staff Scientist before moving to Penn. State.

**ALAN N. SYVERUD (Ph.D. 1962)** has retired from full-time chemistry after more than 28 years at The Dow Chemical Co. in Midland, MI. However, he hopes to continue reduced activities in physical chemistry while devoting more time to horticulture, a long-time hobby.

**RICHARD M. WEINSHILBOUM (B.A. 1962)** is Professor of Pharmacology and Internal Medicine and Chairman of the Department of Pharmacology at the Mayo Medical School. He just completed a 5-year term as Director for Research of the Mayo Foundation. In 1990 he will carry the title of "Mayo Distinguished Investigator."

**WAYNE C. WOLSEY (Ph.D. 1963)** is Professor and Department Chairman at Macalester College. He was chosen as the 1989 College Science Teacher of the Year in Minnesota by the Minnesota Academy of Science and Minnesota Science Teachers Association.

#### 1970-1979

**LOREN D. ALBIN (B.S. 1973)** has been working at 3M since receiving his Ph.D. in organic chemistry from the University of Wisconsin in 1978. During the past three years he has had interactions with KU's Professor Daryle Busch, who has served as a 3M consultant.

**ANN CARTWRIGHT (Ph.D. 1972)** is Chairman of the Department of Chemistry at San Jacinto College in Pasadena, TX, and she serves on the ACS Committee on Chemistry in Two-Year Colleges. This year she was one of the four recipients in the U.S. of the Catalyst Award for excellence in teaching. She continues to excel also as an athlete. She won her age group at the Biathlon National Championships this year and was named an All-American Triathlete in her age group. She and her husband spend each Christmas season climbing mountains in exotic places such as Africa (Mt. Kenya and Mt. Kilimanjaro) and Nepal (this year near Mt. Everest).

**CAROL A. CASTEEN (B.A. 1977)** is in private practice "at last!" as an ophthalmologist in Bakersfield, CA, after 4 years in KU medical school, 1 year as an intern, 3 years of residency, and 3 years on fellowship in the retina field. She feels it was all worthwhile, however, and she is beginning to pay off her loans.

**MARCUS CHAO (Ph.D. 1976)** is currently Engineering Manager at the Flint (MI) Automotive Division of B-O-C where his job is more in management than chemistry. He is married and has a 10-year-old son and an 8-year old daughter.

**ANGELIKA HOWARD CLARK (B.A. 1970)** is currently an Advanced Development Chemist for Structural Products and Product Technology at GE Plastics in Mt. Vernon, Indiana. She is involved in developing new materials for thermoformable plastic sheet applications. During the past year she married Dennis Clark, and they have two sons at home, ages 7 and 12.

**CRAIG COWLES (Ph.D. 1971)** is an Associate Professor of Management Science at Bridgewater State College in Massachusetts. His years as a chemist serve as background for courses he teaches in Corporate Strategy and Plant/Operations Management.

**MARV DETTLOFF (Ph.D. 1979)** is a chemist at Dow Chemical in Freeport, TX. Currently he is a Research Leader in the Coatings, Adhesives and Sealants Lab which is developing new resin

monomers for automotive coatings. He is also Chairman of the Education Committee of his local ACS Section. Marv and his wife have two daughters: Kristen Marie, 3 1/2, and Karen Elizabeth, 17 months.

**ERIK FARLEY (B.A. 1978)** is an Associate Editor in Patent Services for Chemical Abstracts. He has acquired a number of languages for his work in analyzing organic chemical patents from all over Europe and the Americas. Two years ago he managed to give up a long-term smoking habit, and he has recently taken up rock climbing. He plans to climb Devil's Tower this summer.

**CRAIG GARRISON (B.A. 1979)** is a Project Leader in the newly-formed Polymer Structure Group at Dow Chemical in Freeport, TX. He is involved in use of optical and electron microscopy and digital imaging analysis to describe structures of polymeric materials such as semicrystalline polymers, polymer blends, and foams. His consuming hobby is golf, and he played at Pebble Beach last September.

**CHARLES M. GROGINSKY (Ph.D. 1970)** left Vega Biotechnologies, Inc. (Tucson) in November for a new career opportunity as Director of Technical Services with Advanced ChemTech in Louisville. Advanced ChemTech is a leading manufacturer of peptide reagents and synthesizers.

**CLEMENT HANSON (B.A. 1972)** has been in Frankfurt, West Germany, since July 1988 as a physician in the U.S. Army. There he serves as Deputy for Preventive Medicine Activities. He currently holds the rank of Lieutenant-Colonel.

**SISTER MARIE JOAN HARRIS (Ph.D. 1971)** left her position as Associate Professor of Chemistry in 1987 to become Vice President and Dean for Academic Affairs at Avila College in Kansas City.

**JON R. HENDRICKSON (B.A. 1973)** and his wife Denise (KU 1977) are pediatricians at Ft. Smith, AR. They recently joined a large, multispecialty clinic of over 100 physicians. Denise's brother, Carey Johnson, is on the chemistry faculty at KU.

**JOHN L. HOGG (Ph.D. 1974)** will be promoted to Professor of Chemistry at Texas A&M University, effective September 1. In recent years, John has received awards both for outstanding teaching and for outstanding student relationships, and he has been active in promoting chemistry to the public by giving demonstrations in elementary schools and on public television. His wife, Janet, continues to teach in the public schools, but no longer in special education classrooms. Their children are currently in the 4th and 5th grades.

**MARK M. HUYCKE (B.A. 1978)** is Assistant Professor of Medicine (Infectious Diseases) at the University of Oklahoma where he and his wife LaRae returned after 4 years of research in infectious diseases in Madison, WI. Although a "Sooner" by

profession, he still roots for the "Hawks".

**CAROL C. IRWIN (B.A. 1966; Ph.D. Biochem. 1971)** finished her MBA degree last August from Simmons College Graduate School of Management. She is now a consultant in the biotech industry at Ares-Serono, Inc., a small pharmaceutical firm with headquarters in Boston.

**JON K. JONES (B.A. 1978)** practices medicine at the Wesley Medical Center in Wichita. He reports the birth of his fourth child, Kristian Nicole Jones, this past year.

**KEVIN P. KELLY (Ph.D. 1979)** is a Senior Chemist at Radian Corporation, located at Research Triangle Park in North Carolina. He supervises the preparation of samples for trace-level organic and inorganic analytes.

**RICHARD KING (Ph.D. 1972)** is in the Product Development Department of Proctor and Gamble in Cincinnati. His work involves development of analytical methods for fatty alcohols, fatty esters, and surfactant products.

**LAURA M. PINKSTON KOENIGS (B.A. 1978)** and **KENNETH P. KOENIGS (B.A. 1978)** are both physicians in Springfield, MA. Laura is Head of the Division of Adolescent Medicine at Bay State Medical Center, a Tufts affiliate, and Ken is in private practice (with a partner) in gastroenterology. They have two children: Tom, 4, and Maria, 2.

**ROBERT P. LATTIMER (Ph.D. 1971)** is a Senior R&D Associate for BF Goodrich and is currently serving a two-year term as Vice President for Arrangements for the American Society for Mass Spectrometry. He is the recipient of the 1990 Sparks-Thomas Award for younger scientists who have made outstanding contributions to rubber science and technology. Currently he is Associate Editor for *Journal of Analytical and Applied Pyrolysis* and for *Rubber Chemistry and Technology*.

**PAUL J. MILLER (B.S. 1979)** worked for a year in the Astronautics Division of McDonnell Douglas before returning to KU where he finished his M.D. in 1985 and completed his residency in Radiation Oncology in 1989. He is currently practicing medicine in southern California. He and his wife Vicki Melton (KU journalism 1984; UMKC Law School 1989) had their first child in January, 1990.

**PATRICIA A. MORGAN (B.A. 1972)** is now Chief Chemist at Total Petroleum in Arkansas City (KS) and is also President of the Chamber of Commerce there. She and her husband Mike have two children, Lindsay (11) and Michael (9).

**NARENDRA (NARU) PATEL (M.S. 1970)** was recently promoted from Manager of Quality to Associate Director of Research in charge of Olin Corporation's Process Technology Center in New

Haven, CT.

**JUAN F. PEDRAZA (M.S. 1973)**  
retired in 1985 from his teaching position at the Santander Industrial University in Bucaramanga, Columbia. He has written a two-volume series entitled "Quantitative Analytical Chemistry."

**JAMES K. PIERCE (Ph.D. 1970)**  
has completed more than 20 years with Dow Chemical Co. and has been appointed to the Management Committee of Dow Deutschland. He was recently cited as an Alumni Achiever by William Jewell College.

**KLAUS R. PORSCHKE (M.S. 1972)**  
is directing a research group in organo-transition metal chemistry at the Max Planck Institut fur Kohlenforschung in Mulheim a.d. Ruhr, West Germany. In 1989 he passed the "Habilitation" and received the "venia legendi" for inorganic chemistry. Klaus also teaches organometallic chemistry at the Universitat Dusseldorf.

**RICHARD L. RAJEWSKI (B.A. 1973)**  
is in private practice with two other family physicians in Hays, KS. He still delivers babies but has given up some other surgical procedures. He especially enjoys the teaching and health promotion aspects of medicine. His wife Vicki manages a hemodialysis center in Hays. They have three children: Josh (11), Justin (9), and Jeremiah (5). Richard and Vicki are currently restoring a 1958 Corvette.

**PAUL D. SWAIM (M.S. 1975)**  
was recently promoted from Project Leader to Research Leader in the Analytical and Engineering Sciences Department of Dow Chemical Co. in Freeport, TX.

**TERRANCE E. SUAREZ (Ph.D. 1972)**  
is currently a Division Chairman for Allied Health at Wytheville Community College in Virginia. He has administrative responsibilities for a number of programs in allied health education and is also active in this area on the state level. He still manages to teach chemistry and is committed to the community college philosophy.

**PAUL C. SHELLITO (B.A. 1973)**  
remained at Massachusetts General Hospital in Boston after finishing medical school and residency there and is currently a Surgeon and Assistant Professor of Surgery at Harvard Medical School. He and his wife Barbara (KU class of 1974) have two little boys.

**FRANK YEN-SHIANG SHIH (M.S. 1975)**  
continued graduate work at MIT after leaving KU and received a Ph.D. in Chemical Engineering in 1979. He then joined the Department of Chemical Engineering and Technology at the National Taiwan Institute of Technology where he carried out research in applied catalysis and electrochemical technology until 1987. Currently he is Director of the Office of Science and Technology Advisors for the Taiwan Ministry of

Economic Affairs.

**GREGGORY J. VAN SICKLE (B.A. 1971)**  
received his M.D. degree from Northwestern University in 1975 then moved to Galveston, TX, where he did his residency in pediatrics and pediatric gastroenterology at the University of Texas Medical Branch. Currently he is in private practice with Pediatric Associates in Topeka.

**PATRICIA HERMAN YOUNG (B.A. 1975)**  
completed her residency 7 years ago and has been practicing medicine at North Kansas City Hospital where she is Staff Anesthesiologist. She is married to Dan Young, a graduate of the KU Business School, and they have two children - Jessica, 8, and Michael, 5. Patricia is often called upon to help people with chemistry homework.

#### 1980-1989

**KEITH ALLEN (B.A. 1982)**  
is currently a Resident in Surgery at Emory University Hospital in Atlanta, GA, but will begin a fellowship in cardiothoracic surgery in Chicago in 1991.

**GREGORY P. ANDERSON (Ph.D. 1980)** is completing his first 10 years with Texaco in Houston. Currently he is Products Supervisor in the business center for additive packages used in formulating crankcase lubricants.

**RAFFY GUECO BROWN (M.S. 1984)**  
has a son, Mitchell, born in 1987, and her second child was born in January, 1990. She and her husband, Terry, live in Sunnyvale, CA.

**ROBERT L. BROWN, JR (B.A. 1981)**  
is currently marketing and developing advanced process control systems for chemical and petrochemical plants for UOP in Des Plaines, IL. He is also working on an MBA degree at night at J.L. Kellogg Graduate School of Northwestern University.

**DAN DECKER (B.A. 1985)**  
was recently promoted to Senior Sales Representative at Becton-Dickinson Microbiology Systems, where he has worked for three years. He married Debbie Winston (a 1989 KU graduate) in 1987. Currently he is also working toward an M.B.A. degree which he hopes to complete in the early 1990's.

**DOUGLAS A. FEMEC (B.A. 1980)**  
is a Senior Scientist in Research and Development with EF and G Idaho, located in Idaho Falls. He describes himself as a generalist, addressing problems from many directions, experimental and theoretical. Currently he is involved in polymer synthesis and chemical modification of glass surfaces. Doug and his wife, Julie, now have two children: Sarah, 3, and Gregory, 1.

**ALLEN MEJILLANO GONZALES (M.S. 1984; Ph.D. Biochem. 1989)**  
currently works as a Postdoctoral Associate with Pro-

fessor Himes in the Department of Biochemistry at KU.

**DOROTHY HANNA (Ph.D. 1983)**  
is now an Associate Professor and Chair of the Science Division at Kansas Wesleyan College in Salina. Recently she has been involved in developing programs in science for the community and high school students. She is also directing a study on the accessibility of higher education for women and minorities in the Salina area.

**KEN JONES (B.A. 1987)**  
is currently Technical Sales Representative at the Millipore Corporation, Waters Chromatography Division. He is involved in technical sales and support for HPLC instruments and columns.

**JONG-HO KIM (Ph.D. 1980)**  
now works for the United International Group, which deals in international trade in chemicals, and he also operates a retail store in Chicago. He and his wife, Dal Suk, now have three boys, ages 4, 6, and 8.

**CAROLEE KING (B.A. 1984)**  
received the President's Award for Outstanding Performance at Midwest Research Institute in 1989 and in 1990 was promoted to Staff Chemist. In May, she will assume a position as a process and environmental chemist in the Graphic Arts Division of Hallmark Cards in Kansas City.

**JEAN LEE (Ph.D. 1981)**  
had her second daughter, Casey, last September. Her first daughter, Rachel, is now 2 years old. Jean and her husband, Victor, live in Torrance, CA.

**DEBRA L. MESSAMORE (B.A. 1980)**  
is in private practice in OB/GYN in Wichita. She has three children: Will, 6; Holly, 2 1/2; and Lauren, 2 mo.

**DAVID A. MILLER (B.A. 1985)**  
is a resident in General Surgery at Keesler Medical Center. He and his wife Jennifer are proud parents of Jessica Jane Miller, born last November.

**GEORGE SCHUPP (M.S. 1983)**  
is an Environmental Scientist (drinking water certification officer) with the EPA in Chicago and has published a paper entitled "Quality Control for Organic Trace Analysis" in *Trends in Analytical Chemistry*. His third child, Christopher David, was born last November.

**BRYAN TAYLOR (B.A. 1980)**  
is an Anesthesiologist in St. Mary's Hospital in Enid, OK, but will be moving to Kansas City in the summer of 1990. He is married and has two children.

**CHARLES P. "CHUCK" TROMBOLD (B.A. 1980)**  
is General Manager (and former owner) of Hydrocarbon Recyclers, Inc., in Wichita. He became associated with this company upon his return from the University of Reading (England) in 1981.

**PAUL C. TRULOVE (B.A. 1983; M.S. California State University, Northridge, 1988)**  
is a Captain in the Air Force and is currently halfway through a 3-year Ph.D. program at SUNY Buffalo, working with Professor Osteryoung. His research involves electrochemistry and NMR spectroscopy in room-temperature chloroaluminate molten salts. He will be assigned to the Frank J. Seiler Research Laboratories at the USAF Academy in Colorado Springs when he completes his degree. Paul and his wife, Lona, have two daughters, Katie, 7, and Maggie, 3, and a third child is expected in May, 1990.

**PAULOS YOHANNES (Ph.D. 1986)**  
is an Asst. Professor at Life College in Marietta, GA.

#### 1990-1999

**ANDREW C. "ANDY" LOTTES (Ph.D. 1990)**  
is a Postdoctoral Research Associate with Professor Paul Gassman at the University of Minnesota. In May, 1990, the KU Graduate School awarded Andy the Dorothy Haglund Prize, which is the University's highest recognition for a doctoral dissertation.

#### NEWS OF FACULTY

##### Analytical Chemists

**DR. RALPH ADAMS** received the Electroanalytical Award from the Analytical Division of the ACS. The presentation was made during the National ACS meeting last September in Miami.

**DR. REYNOLD T. IWAMOTO** was recently appointed to the Policy Committee of the Kansas Water Resources Research Institute, thus Rey's long interest in 'nonwatery' studies (Daily Kansan's description of his nonaqueous research) has given way to basic matters of water quality and availability in Kansas. On the subject of water, the annual May fishing trips to the Minnesota-Canada boundary waters with colleagues in Malott Hall continue to provide good fishing stories. The recent slowdown in local fishing has been disappointing but not all bad; there is more time for him to get in some nice long bike rides out in the country.

**DR. CRAIG LUNTE** spent several weeks in southeast Asia last November as a Field Interviewer for the Chemistry Interviewing Project in Southeast Asia. Craig's job was to interview and evaluate prospective chemistry graduate students who hope to attend U.S. universities. Craig and his wife, Sue, had their first child, a girl, this spring.

**DR. TED KUWANA** has been appointed to the new position of Senior Science Adviser for KU. As a result of Ted's promotion, Richard Givens will assume Ted's former position as Director of the Center for BioAnalytical Research.



Analytical Chemists (left to right): Rey Iwamoto, Craig Lunte, Ralph Adams, Ted Kuwana, George Willson.

DR. GEORGE WILSON continues his research with the assistance of three post-doctoral and twelve graduate students. Research interests include: fundamental studies of biological electron transfer involving thioethers (methionine) and metalloproteins such as blue copper proteins and cytochromes; model systems include proteins and protein films as applied to sensor development; new rapid and sensitive flow-injection and sensor-based analytical methods exploiting enzyme and immunological specificity; implantable biosensors for in-vivo monitoring; biocompatibility. George and his wife, Bev, Assistant Professor in the School of Business, have transferred their enthusiasm for basketball to the Jayhawks. Their son Stephen is a freshman at KU this year.

#### Inorganic Chemists

DR. GROVER EVERETT returned in August from sabbatical leave at two universities in Australia where he started two research projects involving synthesis of and membrane transport properties of supramolecular complexes (transition metal complexes enclosed by one or more additional large, polydentate ligands). He was also involved in a third project concerning reduction of carbon dioxide using Re(I) catalysts. All three projects were turned over to Australian students. The collaboration is continuing, and preliminary results of one project are already in press. Back at KU, Grover is heavily involved in the general chemistry program. He

still manages to keep up with his sports such as running, cycling, and orienteering. His daughter, Susan, is now a graduate student in art in Chicago, and his son, Mark, is a junior at KU, majoring in astronomy. Carolyn, his wife, is both a realtor and a junior high school teacher.

DR. JOE HEPPERT's research program continues to focus on the synthesis of chiral transition metal complexes, with the objective of applying these new molecules as reagents for stereospecific organic synthesis and as catalysts for stereospecific polymerization (see Research Synopses). Dr. Heppert expects his first two graduate students to complete Ph.D.s this summer. He and his wife Kathy, who is a chemist at INTER<sub>x</sub> Corporation on West Campus, had their second daughter this spring.

DR. KRISTIN MERTES' research efforts currently focus on designing and synthesizing polyamine macrocycles as enzyme mimics. Both traditional (transition metal ion) and avant garde (anion) coordination chemistry are being investigated. Once synthesized, these molecules are examined as potential catalysts for oxygen activation (transition metal complexes) and phosphoryl or acyl transfer (polyammonium macrocycles capable of anion complexation). Her research group is highly international--Chinese, Iranian, Cameroonian (and one American). She is invited to give a plenary lecture at the First Spanish-Italian

Congress on the Thermodynamics of Metal Complexes in Spain this June. Beginning sometime this summer, Dr. Mertes will be spending a year at Caltech on sabbatical leave. Occasionally in non-research oriented moments, Dr. Mertes has been seen scuba diving off the Florida Keys and in Hawaii. It is also rumored that she has been seen crewing for a silver Corvette race car at drag races.

DR. ANGELO VEDANI has a joint appointment in the Departments of Chemistry and Biochemistry, and his research interests in molecular graphics and modeling of metalloenzymes bridges the gap between the departments (see Research Synopses). Angelo is a Swiss mountain climber who misses the European Alps but finds some satisfaction in eastern Kansas by long-distance bicycling. He and his wife, Susanna, have a 2-year-old son, David.

#### Organic Chemists

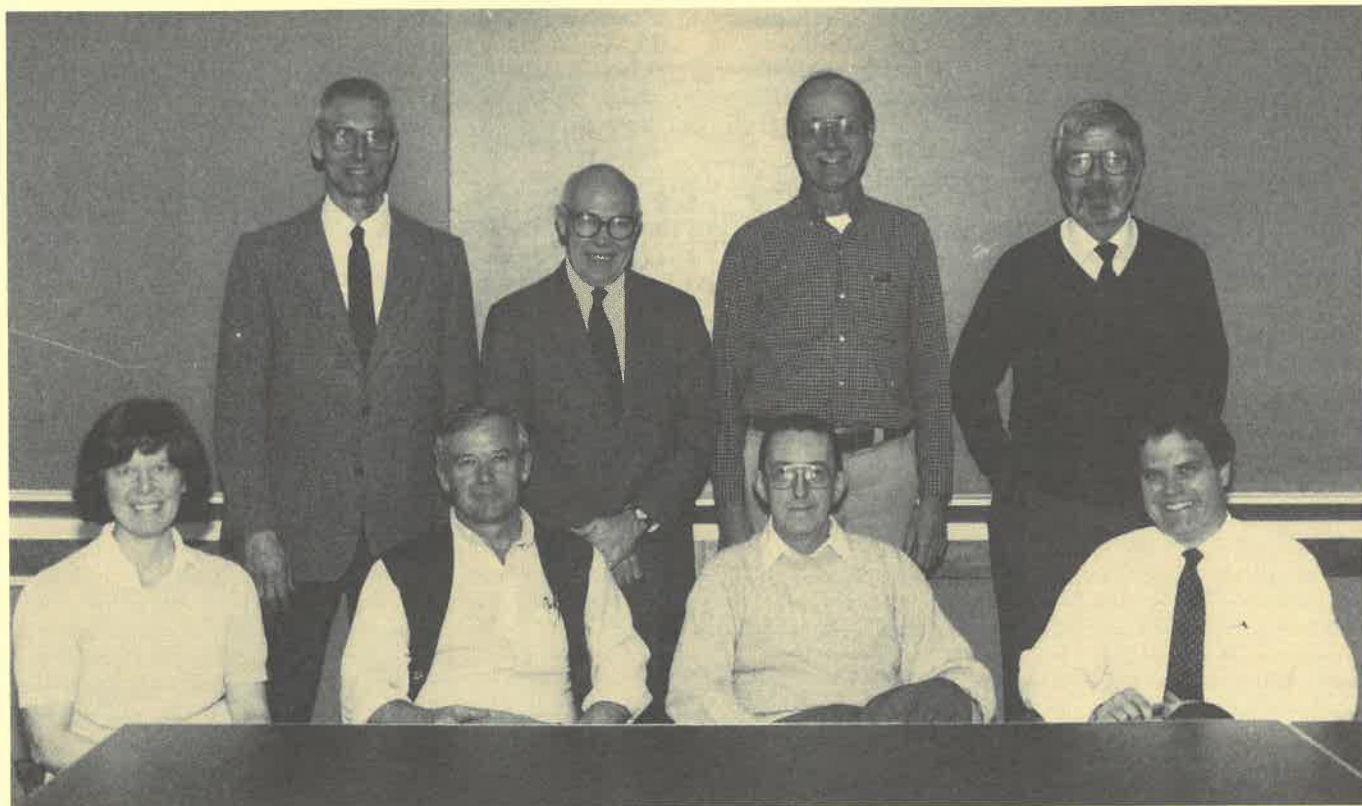
DR. ALBERT W. BURGSTÄHLER, after his first time handling CHEMISTRY 188 (Foundations of Chemistry II) last spring, was initiated into teaching the large CHEMISTRY 184 (Foundations of Chemistry I) class in the 1989 fall semester. Like others before him who have taught these courses in Hoch

Auditorium, he is quick to agree that they are a very challenging and stimulating experience. On January 15, Albert and Dr. Almad S. Nasser of Lawrence High School presented a well-received two-hour workshop to about 20 secondary school science teachers on some innovative "Low-Budget Laboratory Experiments in General Chemistry" at an all-day conference of the Association of Christian Schools International held in Kansas City, KS. At present Albert is back at his first love, teaching organic chemistry in CHEMISTRY 763 (Organic Synthesis I). With the birth of their fifth grandchild last summer, the Burgstahlers now have five children and five grandchildren with a ratio of 3 girls to 2 boys in each set. On January 1 the Lawrence Journal-World carried a Monday Profile on his wife, Patricia, and her 40-year career as a piano teacher. The Burgstahler's youngest child, David, is now in his last year at KU, earning a degree in aerospace engineering. Albert has now fully recovered from a broken condyle bone (upper jaw) incurred playing tennis in September 1988. Recent developments in the fluoridation scene (Science, 19 Jan) suggest he may soon be vindicated for his long-time concern about the potential hazards and shortcomings of water fluoridation.

DR. ROBERT CARLSON continues to lead the synthetic efforts for new analytical reagents in the



Inorganic Chemists (left to right): Kristin Mertes, Joe Heppert, Angelo Vedani, Daryle Busch, Grover Everett



Organic Chemists (left to right): Barbara Schowen, Albert Burgstahler, Rich Givens, Dick Schowen, Jack Landgrebe, Bob Carlson, Earl Huyser, Tom Engler.

Center for Bioanalytical Research. He has been serving on the committee preparing the new ACS Examination in Organic Chemistry.

DR. TOM ENGLER has been promoted to Associate Professor and has received an Alfred P. Sloan Fellowship.

DR. RICH GIVENS and his research group have made considerable progress in unraveling the reaction mechanism for peroxoxalate chemiluminescence, the reaction responsible for Cyalume lightsticks and other commercial specialty products. Givens's group is interested in the application of chemiluminescent reactions to trace analysis of biologically important molecules. His group has also had a major breakthrough in developing photochemically detachable groups for phosphates, molecular protecting group. c-AMP was the first successful target of this research project and has been "protected" synthetically then "deprotected" photochemically. Givens addressed the American Association of Pharmaceutical Sciences in Atlanta in October on the use of chemiluminescence as an HPLC detection method. He and his group also presented their work on phosphate esters at ACS meetings and in lectures at several area colleges and universities. A trip to Boston for the Spring ACS meeting with his wife and eldest daughter, Barbara, reunited them with his daughter Beth, a student at BU

this year.

DR. EARL S. HUYSER is continuing his consulting with the Dow Chemical Company in Midland, Michigan, Plaquemine, Louisiana, Freeport, Texas, occasionally in Tulsa, Oklahoma and recently in Cincinnati, Ohio. The most pleasant part of this endeavor is having the opportunity of maintaining both professional and personal relationships with KU graduates who are part of the Dow research staff.

DR. JOHN A. (JACK) LANDGREBE continues to study the formation and reactions of carbonyl ylides. He maintains a strong interest in developing inexpensive microscale techniques for the undergraduate organic laboratories and has begun the task of revising the 3rd edition of his organic laboratory text. His son John was married in July, 1989, and is living in Lawrence. His daughter Carolyn and her husband now live in Plainfield, IN.

DR. BARBARA SCHOWEN has taken on many of the responsibilities of coordinating the undergraduate programs of the Department. She serves as Chair of the Undergraduate Affairs Committee and teaches regularly two of our non-majors courses: CHEM 125, an introduction to chemistry with an enrollment of 340 students, and CHEM 622, the one-semester organic course. Last Fall, students in the 622 course used in

manuscript form a text which she has written. She is the University's Chief Health Professions advisor and spends much of her time advising premedical as well as chemistry undergraduates. Last Spring, she helped organize an interdisciplinary course called Science and Technology for about 100 students and this Spring is teaching the seminar course for 20 sophomores selected as University Scholars. This summer she will again be running the Department's Undergraduate Research Program funded largely from an NSF-REU Award. The Schowen's two daughters are both in college on the East coast. The older, Susana, will graduate in June and plans on graduate study in chemistry.

DR. RICHARD L. SCHOWEN and his coworkers in Chemistry, Biochemistry and CBAR are pursuing their studies of the catalytic power of enzymes, mechanistic questions in bioanalytical chemistry, and most recently the dynamics of ligand-gated transmembrane ion transport. Essentially all the work is collaborative, involving university groups at Bristol (UK), California (San Francisco), ETH (Zurich), Halle (GDR) and Nebraska, industrial groups at Merck, Sharp & Dohme and the Upjohn Company, and groups at KU. With I.A. Rose of the Fox Chase Cancer Center, Dick organized a two-day symposium on "Hydrogen Transfer" for the ACS National Meeting in Boston in April 1990. In

February he delivered an intemperate attack on liberal education ("Liberal Education: Pretense and Pretension") to initiates of the Phi Kappa Phi honorary society.

#### Physical Chemists

DR. SHIH-I CHU was recently named Watkins Distinguished Professor of Chemistry. Shih-I continues his research on theoretical studies of multiphoton and nonlinear optical processes of atoms and molecules in the presence of intense laser fields with intensity ranging from  $10^{12}$  to  $10^{16}$  W/cm<sup>2</sup>. He is also interested in developing new methods for probing the nature of quantum chaos and quantum fractals. He had three students (two Ph.D.'s and one M.S.) finish in the recent past. He has recently written a few invited review or feature articles and has presented several invited talks, including one at Harvard and a series of lectures at Academia Sinica in Taiwan. Through a practice of some Buddhist techniques, he has now a better appreciation of the beauty and complexity of the structure of the invisible Universe.

DR. PAUL W. GILLES will retire in May from classroom teaching and committee activities. The retirement is a year earlier than required. He plans to continue research in high temperature chemistry with



Physical Chemists (left to right): Peter Hlerl, Carey Johnson, Paul Gilles, Marlin Harmony, Shih-I Chu, Bill Argersinger



one graduate student and to continue work on the critical evaluation of thermodynamic data of metal sulfides on a grant from the National Institute of Science and Technology (formerly NBS). He and his wife, Helen, plan to continue residing in Lawrence. During the past year his twenty-fourth and twenty-fifth Ph.D. students, Glen F. Kessinger and Mark A. Williamson completed their degrees. Also during the past year he attend the Midwest High Temperature and Solid State Chemistry Conference in Binghamton, NY in June, the IUPAC Congress in Stockholm, Sweden and the IUPAC General Assembly in Lund, Sweden in August, and the Symposium on High Temperature and Materials Chemistry in Berkeley in October. For 1990 he plans to attend the Gordon Research Conference on High Temperature Chemistry and the IUPAC Commission on High Temperature and Solid State Chemistry meeting in Dublin. In 1991 the Midwest High Temperature and Solid State Chemistry Conference will meet in Lawrence.

DR. MARLIN HARMONY has continued his development of experiments aimed at the detection of unstable and reactive molecules in supersonic free jets using laser spectroscopy. At the same time his microwave structural studies have received a boost by an NSF grant for upgrading the old Hewlett-Packard instrumentation purchased in 1975. By virtue of very careful planning, his attendance at the Pacific Basin Chemical Conference in Honolulu in December with spouse Nancy meant that the -21 °F Lawrence temperatures were avoided. This was, of course, a professional "working" activity, but it followed the Harmony's July trip to Alaska which was entirely for pleasure.

DR. PETER HIERL is continuing his experimental studies of the dynamics of gas-phase ion molecule reactions, using ion-beam scattering techniques. With support from the Petroleum Research Fund of the ACS, he and his students have also been carrying out combined experimental and theoretical investigations of the effects of temperature and reactant solvation upon the rates of nucleophilic substitution reactions in the gas phase. Now in his third year as Associate Chairman of the Department, Peter also chaired the Graduate Admissions Committee this year.

DR. CAREY JOHNSON is involved in studies of ultrafast dynamics in proteins and nonlinear spectroscopic processes (see Research Synopses). Currently his research group comprises two postdoctoral associates and one graduate student. His research is supported by a FIRST award research grant from NIH, and by a research grant to study photosynthesis from the USDA. Carey and his wife Jean, a math professor at Baker University, have a one-year-old daughter Elizabeth.

#### Emeritus Faculty

DR. WILLIAM J. ARGERSINGER, JR. is still studying his [intractable?] non-linear equations for some oscillating chemical reactions, and writing rhymes at sufficient provocation. He will be on the program at KU's Sigma Xi Centennial celebration in April, and

has a minor part in planning for KU's 125th Anniversary. He and his wife, Marnie, cruised in the Virgin Islands in February, part of the "Have retired-Will travel" commitment.

DR. CLARK E. BRICKER is in his seventh year of retirement, but he has remained reasonably active in chemistry. During the Spring and Fall semesters of '89, he volunteered to meet discussion sections and to tutor several students in General Chemistry. He continues to review manuscripts for the *Journal of Chemical Education* and to give his lecture on "Chemistry Can Be Fun" a couple of times every month. Brick recently published a paper entitled: "Current Efficiency in Electrolysis," *J. Chem. Ed.*, 66, 954-5 (1989). He visits the Department at least 3 days every week and attends most of the Analytical and Departmental seminars. Of course, since Brick has a son and daughter-in-law living in Phoenix, he may be expected to desert Lawrence for several weeks during the winter. His family is well and the first grandchild was born on January 14, 1990.

DR. ARTHUR W. DAVIDSON is living with his daughter and son-in-law in the Kansas City area (2625 Seminole Drive, N. Kansas City, MO 64116), where he is close to three grandchildren and seven great-grandchildren. He also has, in Colorado, a son, a daughter-in-law, four grandchildren, and six great-grandchildren. Arthur was known for his daily walks while living in Lawrence, but he now has to "watch his step" and no longer takes daily walks outdoors. However his is still in "fairly good health" and clearly remembers an event that occurred just before his second birthday in February of 1898!

DR. ERNEST GRISWOLD retired in 1975, and since that time he and his wife Marvel have made several trips to Europe, one of which included Morocco, and one of which was to England with members of a family association looking for church records and places associated with their ancient ancestors. Ernie has taken courses at KU, and has attended concerts, plays, athletic events, and ACS lectures. Their six children are all married, with families of their own. They live in Illinois, Kansas, Nebraska, Minnesota, Wisconsin, and British Columbia, so visiting them can be a trip in itself. They have eleven grandchildren and six great-grandchildren. A stroke in 1986 paralyzed Ernie on one side and affected his voice, so his activity since then has been greatly restricted. Consistent therapy and a wonderfully supportive family have helped mightily. Currently he is writing short biographies of some former faculty members of the KU Department of Chemistry for inclusion in "American Chemists and Chemical Engineers".

DR. JACOB KLEINBERG is completing his sixth year of retirement, but he spends about three half-days a week in his office in Malott Hall. In the fall semester of 1989 he taught one of the Discussion Sections for Chemistry 184 (general chemistry) in which the textbook he co-authored, *Chemistry, with Inorganic Qualitative Analysis* (3rd Edition, 1989) was used. Jake

continues to serve as a consultant for one of the Isotope and Nuclear Chemistry groups of the Los Alamos National Laboratory. In this connection he has recently completed the compilation and editing of what will be the 5th edition of *Collected Radiochemical and Geochemical Procedures*.

DR. CHARLES A. (BERT) REYNOLDS retired from KU in 1988, and it seems to agree with him even though we don't see him in Malott very often. He and Priscilla have been busy with traveling, baby-sitting one or more of their nine grandchildren, fixing up their house, and generally taking life a little more slowly. If you ask Bert what is the best thing about being retired, he will answer "being able to spend my summers in Colorado, fishing." He would love to hear from any of his former students and friends. His home address is: 2209 Hill Court, Lawrence, KS 66049.



#### IN MEMORY OF

#### DR. JUNG KONG LEE

Dr. Jung Kong Lee, 65, multinational business executive and former professor of chemistry at the University of Kansas, died on January 31, 1990 following a lengthy illness.

Dr. Lee was affiliated with the chemistry department for 24 years and was recognized as a talented and inspiring teacher. From 1970 to 1980 he served as Associate Chairman of the department working tirelessly and innovatively to improve facilities, to upgrade stipend support for graduate students and to identify funding sources for faculty research.

He developed a departmental Alumni Annual Giving Program and initiated a series of professional interactions among chemistry faculty and students of neighboring universities and colleges which continues today.

His research publications included fundamental studies in electroanalytical chemistry, radiochemistry and chromatography. In addition he was a concerned father confessor to faculty and students, offering help and counseling whenever needed. As colleague William J. Argersinger, Jr. has said, "J. K. is not only part of the arms and minds of the Chemistry Department, but much of its heart."

He was a member of the Chancellor's Club and a major contributor to Campaign Kansas. As a member of the University community, Dr. Lee ranked high among those who have contributed to stronger University-Community relations. According to State Supreme Court Justice Fred N. Six, "In my experience, the acquaintance that Professor Lee developed with professional and business people in Lawrence and the respect which this group holds for him is unique." Businessman Richard N. Raney stated that "Professor Lee has offered himself to the total community and its higher goals with unusual effectiveness."

In 1980 Dr. Lee resigned from the University to participate actively in the management of the Lee Hysan Estate Company, Limited, a family investment

company in Hong Kong for three generations, and of the affiliated Hysan Development Company, Limited. He and his wife have retained a home in Lawrence.

In Hong Kong he was a driving force in the Consultative Committee for the drafting of the Basic Law which has recently been published and which will be the Constitution for Hong Kong after 1997 when the sovereignty of Hong Kong will revert to China. He also was a member of the steering committee in 1987-89 of "A Study of Hong Kong," conducted by the Stanford Research Institute International as an independent assessment of Hong Kong's past and future economic situation.

During the past ten years his deep commitment to education and research did not diminish. In addition to maintaining close ties to University of Kansas colleagues and their work, Dr. Lee served as a member of the National Council of the Salk Institute, San Diego; governor and honorary secretary of the East Asian History of Science Foundation based at Cambridge University in England; a member of the board of trustees of United College of the Chinese University of Hong Kong and of the Advisory Council of Princeton University, Princeton, New Jersey; and as chairman of the College Council and member of the Board of Governors of Lingnan College, Hong Kong, of which he was an alumnus. He was a founder of the Princeton Club in Hong Kong.

Born in Hong Kong, Dr. Lee served in the Chinese Army in World War II and was at one period attached to General "Vinegar Joe" Stillwell's Army in the China, Burma, India Theater as an interpreter. After the war, he entered Princeton University where he received an A. B. degree in 1950 and a Ph. D. in 1955. He worked as a postdoctoral fellow at Massachusetts Institute of Technology for a year before coming to Kansas.

In addition to his wife, Ingrid Lee, he is survived by a son, Oliver Lee, his mother, Mrs. Hysan Lee, Hong Kong; three brothers and five sisters.

A Memorial Tribute, attended by many friends from near and far, was held in Woodruff Auditorium in the Kansas Union on February 10. Memorial contributions may be made to the J. K. Lee Chemistry Fellowship Fund, University of Kansas Endowment Association.

(contributed by Virginia Adams)

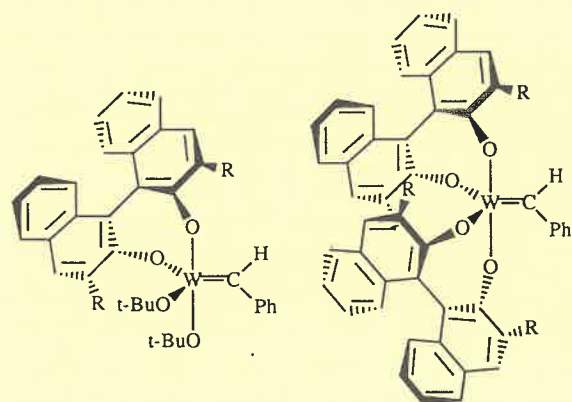
#### FACULTY RESEARCH SYNOPSSES

**Joseph A. Heppert - Assistant Professor, Inorganic Chemistry.**

*Research Interests: Organotransition metal chemistry, catalysis, chiral metal complexes, stereospecific metal-mediated reactions, metal alkoxides.*

Recent research efforts in my group have focused on the stereospecific synthesis of inorganic and organometallic molecules and the application of chiral organometallic complexes as reagents and catalysts for the enantiospecific synthesis of organic molecules. Our efforts in low-oxidation-state organometallic complexes are concentrated on three strategies for introducing

new stereocenters into target molecules: 1) the use of pre-existing chiral centers bearing heteroatom substituents to direct diastereospecific deprotonation and complexation reactions, 2) the use of removable tartrate-derived chiral ketals to direct similar diastereomeric transformations, and 3) the reaction of prochiral substrates with chiral reagents, such as asymmetric lithamide bases, to effect enantiospecific substitution reactions. These reactions have provided new asymmetric routes to synthetically useful organometallic complexes and have produced a variety of new bidentate ligands that are currently being tested in chiral bimetallic catalysts. Methodology related to these studies is being used to devise asymmetric syntheses of chiral-at-metal organometallic complexes.



We have recently begun to apply tungsten complexes containing chiral binaphtholate (BINO) ligands to problems in stereospecific polymerization catalysis. While specific catalysts are known to produce polymers from cyclic olefins containing predominantly either cis or trans carbon-carbon double bonds, conditions under which the isomerism of the olefinic linkages and stereocenters on the polymer backbone can rationally be varied have not yet been realized. We set out to accomplish this goal by incorporating chiral BINO ligands, whose steric demands could be widely varied, into a series of tungsten alkylidene complexes. The resulting molecules (BINO)(t-BuO)<sub>2</sub>W(=CHR) and (BINO)<sub>2</sub>W(=CHR), shown in the figure, polymerize norbornene, dicyclopentadiene and phenylacetylene at ambient temperature. The catalysts studied thus far are not as long-lived as many recently developed metal alkylidene catalysts, but they do have the unusual ability to control the stereochemistry of C=C bonds formed during polymerization. Increasing the size of substituents on the BINO ligands in the ordering H < Me < Ph causes a concomitant increase in the fraction of cis olefinic units in the polymer.

#### Representative Publications:

1. Heppert, J.A.; Boyle, T.J. "The Chemistry of the  $[\eta^6\text{-C}_6\text{H}_5\text{O})\text{Cr}(\text{CO})_3]$  Ligand," *Organometallics* 1989, 8, 461.
2. Heppert, J.A.; Dietz, S.D.; Boyle, T.J.; Takusagawa, F. "Asymmetric Binaphtholate Complexes of Transition Metals: A New Class of Supporting Ligands for W-W Triple Bonds," *J. Am. Chem. Soc.* 1989, 111, 1503.
3. Heppert, J.A.; Thomas-Miller, M.E.; Scherubel, D.M.; Takusagawa, F.; Morgenstern, M.A.; Shaker, M.R. "Competitive Nucleophilic Aromatic Substitution and Haloarene Reduction in the Synthesis of Bimetallic  $\pi$ -Arene Complexes: The Structural Characterization of  $[\text{Et}_4\text{N}][\{\eta^6\text{-}(\text{CO})_5\text{W}\}\text{C}_6\text{H}_5\}\text{Cr}(\text{CO})_3]$ ," *Organometallics* 1989, 8, 1199.

**Angelo Vedani - Assistant Professor,  
Inorganic Chemistry and Biochemistry**

*Research Interests: Structure and function of metalloenzymes, molecular modeling, development of molecular mechanics and receptor mapping software.*

Research efforts at the Biographics Laboratory of the University of Kansas have focused on the development of a force field for the simulation of metalloproteins featuring a new potential function for modeling metal-ligand interactions. What distinguishes this function from those used in other molecular mechanics programs is that it includes as variables the symmetry at the metal center, directionality of the metal-ligand bonds, ligand-metal charge transfer, and ligand-field stabilization. The new force field has been developed and calibrated based on the analysis of accurate small-molecule crystal structures retrieved from the Cambridge Structural Database and incorporated into the molecular mechanics program "Yeti," which also includes directional terms for H-bonds and salt linkages in its force-field energy expression.

The program is presently being used for modeling details of metal-coordination, substrate binding, H-bond network formation, and protein-solvent interactions in the enzymes Carbonic Anhydrase, Alcohol Dehydrogenase, Trypsin, Thermolysin, and Superoxide Dismutase.

Recent activities at the Biographics Laboratory of the University of Kansas have shifted towards the development of an interactive Receptor-Mapping program, named "Yak" after the extremely persevering species found in the Himalayas. The program has been designed to generate a peptidic receptor site around any small molecule of interest based on the directionality of H-bonds and hydrophobic interactions. It includes the "Yeti" force field, which allows parallel optimization during the buildup. The generation of the receptor can be followed interactively on a computer graphics terminal. The program also allows the addition of water molecules, metal ions, and the formation of water-mediated small-molecule receptor interactions. In cooperation with a pharmaceutical company, the program "Yak" is presently being used to generate potential receptors around small peptides of medicinal interest.

#### Representative Publications:

1. Vedani, A. "Yeti: An Interactive Molecular Program," *J. Comput. Chem.*, 1988, 9, 269-280.
2. Vedani, A.; Huhta, D.W.; Jacober, S.P. "Metal Coordination, H-Bond Network Formation, and Protein-Solvent Interactions in Native and Complexed Human Carbonic Anhydrase I," *J. Am. Chem. Soc.*, 1989, 111, 4075-4081.
3. Vedani, A.; Huhta, D.W. "A New Force Field for Modeling Metalloproteins," *J. Am. Chem. Soc.*, 1990, 112 (in press).

**Carey K. Johnson - Assistant Professor,  
Physical Chemistry**

*Research Interests: Ultrafast phenomena and laser spectroscopy, dynamics and fast energy conversion processes in photoactive proteins, nonlinear spectroscopy.*

My research is aimed at the study of ultrafast dynamics of molecules in condensed phases with a special interest in application of these techniques to proteins. In order to probe events on ultrashort time scales, we have built a laser system that generates ultrashort laser pulses (about 50 picoseconds-- $50 \times 10^{-12}$  s). In another area of research, we use the high peak power inherent in such short pulses to drive non-conventional spectroscopic processes. Our interest in this area has been hyper-Raman scattering, a nonlinear analog of Raman Spectroscopy.

The focus of my research is currently on the study of efficient ultrafast energy conversion processes and ultrafast internal motion in proteins. We are interested in the ultrafast physical chemistry of two fascinating photoactive proteins:

- 1) *Bacteriorhodopsin*, a membrane protein that serves as a light-activated proton pump in a primitive bacterium, and is closely related in structure and photochemistry to the visual protein rhodopsin; and
- 2) *Photosynthetic reaction centers*, a membrane protein that efficiently transfers electrons in bacterial photosynthesis.

Both of these proteins undergo extremely fast and efficient photophysical and photochemical processes on the picosecond time scale in the energy conversion process. With our laser system, we initiate the protein photochemistry with an ultrashort "pump" pulse, followed by a "probe" pulse after a time delay variable from the picosecond to millisecond time scale. Several methods of laser spectroscopy, including picosecond transient absorption, time-resolved Raman, and polarization spectroscopy, are used to probe the evolving protein, generating information about rates, structure, and internal dynamics.

#### Representative Publications:

1. J.P. Nedderson, S.A. Mounter, J.M. Bostick, C.K. Johnson, "Nonresonant Hyper-Raman and Hyper-Rayleigh Scattering in Benzene and Pyridine," *J. Chem. Phys.*, to be published.
2. J.M. Bostick, S.A. Mounter, and C.K. Johnson,

- "Dual Picosecond Dye Lasers Pumped by Synchronized Mode-Locked and Q-Switched CW Nd:YAG Lasers," *Opt. Commun.* 69, 54 (1988).
3. C.K. Johnson, J.M. Bostick, S.A. Mounter, K.L. Ratzlaff, and D.L. Schloemer, "Picosecond Time-Resolved Laser Spectrometer with Expanded Delay Range," *Rev. Sci. Instrum.*, 59, 2375 (1988).
  4. R.M. Hochstrasser and C.K. Johnson, "Biological Processes Studied by Ultrafast Laser Techniques," in *Ultrashort Laser Pulses*, ed. W. Kaiser, Springer-Verlag, Topics in Applied Physics, vol. 60, 1988, pp. 357-417.

#### DISTINGUISHED LECTURERS

DR. KENDALL N. HOUK, Professor of Chemistry, UCLA, was the forty-second annual *Frank Burnett Dains Memorial Lecturer* last September 21. His lecture was on the topic "Transition Structures and Substituent Effects for Pericyclic Reactions."

DR. ROYCE W. MURRAY, Kenan Professor of Chemistry at the University of North Carolina, presented the twenty-eighth annual *Henry Werner Lecture* on October 9, 1989. The subject of his lecture was "Electrochemical Reactions in Novel Media: Solid Polymer Solutions, Hydrogels, and Fluids Near Liquid Nitrogen Temperatures".

DR. TOM MEYER, Kenan Professor of Chemistry at the University of North Carolina, presented the *Ray Q. Brewster Memorial Lecture* on November 6, 1989. Dr. Meyer spoke about his research on "The Design of Artificial Reaction Centers. Photochemical Electron and Energy Transfer".

DR. CARL LINEBERGER, Professor of Chemistry at the University of Colorado, presented this year's *Arthur W. Davidson Lecture* on April 5. His lecture was entitled "What's in a Bond: Once Upon Anion".

#### BUSCH INAUGURAL LECTURE

Dr. Daryle Busch was officially inaugurated as the Roy Roberts Distinguished Professor of Chemistry on April 2, 1990. The occasion consisted of a lecture entitled "A Visit in the Microcosm with a Molecular Organization Man", followed by a reception and dinner in Daryle's honor.

In his lecture, Daryle outlined how nature's propensity for disorder (2nd law of thermodynamics) could be overcome in the microcosm of coordination chemistry by the organizing capabilities of transition metal cations. He illustrated how this organization can be seen in the high symmetries found in complexes of monodentate ligands and in cation-induced ring closure processes leading to macrocycles, cryptates, and even molecular "knots". Daryle predicted that the template effect, used in designing ring closures, will eventually lead to "molecular braiding", "molecular knitting", and "molecular weaving". During the remainder of his lecture, Daryle discussed how his research over a period of many years has utilized the principles of molecular organization for synthesis of macrocyclic complexes, particularly those designed for reversible coordination

of molecular oxygen. Potential applications include activation of oxygen for catalytic oxidation of organic molecules, design of antioxidants, and artificial blood.

Later, after the banquet, Daryle's long-time friend and colleague Ted Kuwana proceeded to "roast" Daryle in a multimedia exposition of Daryle's character as a teacher and research director. At the end of the show, Ted offered samples of Daryle's homemade finest from the Busch-Wakarusa Brewery.

#### FIRST HIGUCHI MEMORIAL LECTURES

Dr. Arthur Kornberg, Nobel Laureate and Professor of Biochemistry at the Stanford University School of Medicine, presented the first of the *Takeru Higuchi Memorial Lectures* on October 5, 1989. The lectures are dedicated to the memory of our late colleague, Professor Takeru Higuchi. Dr. Kornberg presented a scientific lecture entitled "Initiation of Replication at the Origin of a Chromosome" in the afternoon, followed by a lecture for the general public in the evening entitled "Understanding Life as Chemistry". The evening lecture was preceded by presentation



Takeru Higuchi

of the award to Dr. Kornberg and by a Tribute to Tak and Aya Higuchi by Richard Schowen. An abbreviated version of Professor Schowen's remarks is given below.

Tak Higuchi died on the 24th of March 1987, at the highest point of a long and successful career in science, administration and enterprise, the founder of a major field of research endeavor, the teacher of generations of students, builder of two academic departments that commanded world-wide respect, founder and director of technical enterprises, the recipient of every honor his colleagues had to bestow, and the beloved husband, father and grandfather of a flourishing and accomplished family.

The worldline of Tak's life begins in California. Born in Los Altos on New Years Day, 1918, at the end of one World War, Tak received his undergraduate degree in chemistry from Berkeley on the eve of another World War in 1939. Tak completed his doctoral research in physical chemistry in the University of Wisconsin Chemistry Department in 1943 and on New Years Day, 1944, he took the most important step he was ever to take. He married Aya Toki, who was to be the mother of his children and his partner, confidante and right arm in everything he undertook for the rest of his life.

After a stint of war work for the Office of Rubber Reserve in Akron, Tak accepted a faculty position in the University of Wisconsin School of Pharmacy in Madison. He rose to the Edward Kremers Professorship and to world renown in the application of mathematical, physical and chemical principles to the pharmaceutical sciences, a research field created and nurtured by Tak himself. From this pinnacle of achievement, Tak and Aya came to Lawrence in 1967 for Tak to assume the Regents' Professorship of Pharmacy and Chemistry at KU. They began once again the building of a department of pharmaceutical chemistry, and they continued the development of an international array of relationships and projects in science and education and in the governmental, business and financial arenas. From these efforts, among other important effects, came the Alza Institute of Pharmaceutical Chemistry, INTERx and the Merck Sharp & Dohme Research Laboratories, Oread Laboratories, Odontex, IPRX and the Center for Bioanalytical Research, one of the foundation stones of the Higuchi Biosciences Centers. Today Aya makes her home in Lawrence, continuing the work that she and Tak pursued together, supported and assisted by her children Kenji, Junji, Chie, Peter and their spouses.

What were the motives that guided the long and tremendously effective career that Tak and Aya shared? A thirst for fame cannot have been a factor, for though Tak collected nearly every honor in his field, many more honors could have been his with only the slightest indication on his part. Instead, Tak and Aya avoided public notice. A typical act was their establishment of Research Awards which do not bear their names but instead honor their KU Endowment Association coworkers and friends Balfour Jeffrey, Olin Petefish, Dolph Simons, Sr., and Irvin Youngberg. Any idea of financial incentive is belied by the modest life of the Higuchis and their children, the vast generosity they have shown through many years, the almost cavalier disregard for personal wealth that is the hallmark of the family.

My belief is that the motivation lay in the personal moral principles which Tak and Aya shared and which informed their family life as well as their professional life. Their family life was and remains intensely private, but it is clear that the Higuchi morality was all of one piece. There was no piety for Sunday and ruthlessness for Monday. There was honesty, truthfulness, compassion and humanity for every day and every place. Tak held, I believe, a desire to leave better than he found. His universities, his students, his departments, his corporations, every person, place thing he

encountered, he desired to see become better by the experience. His friends, colleagues and associates can testify to his success. We are all better for having known Tak Higuchi.

#### INDUSTRIAL ASSOCIATES PROGRAM

This spring, Professors Kuwana and Gilles led in the launching of a new program involving departmental alumni and friends who are in industry. The goals of the program are to build stronger relationships between the Department and our alumni and friends in industry, to keep them informed of new programs and research in the Department, to obtain their advice concerning our activities, and to develop a variety of mutually beneficial programs.

The first meeting was held on May 4-5 and included the annual departmental Honors Banquet. During the Friday afternoon and Saturday morning sessions, Professor Kuwana outlined the goals and objectives of the program. Chairman Richard S. Givens described the content and status of the nearly-completed Departmental Planning Document, and Professors Busch, Engler, Johnson, and Lunte told of the departmental research activities in the inorganic, organic, physical and analytical areas. Plans for subsequent activities will be announced in due course.

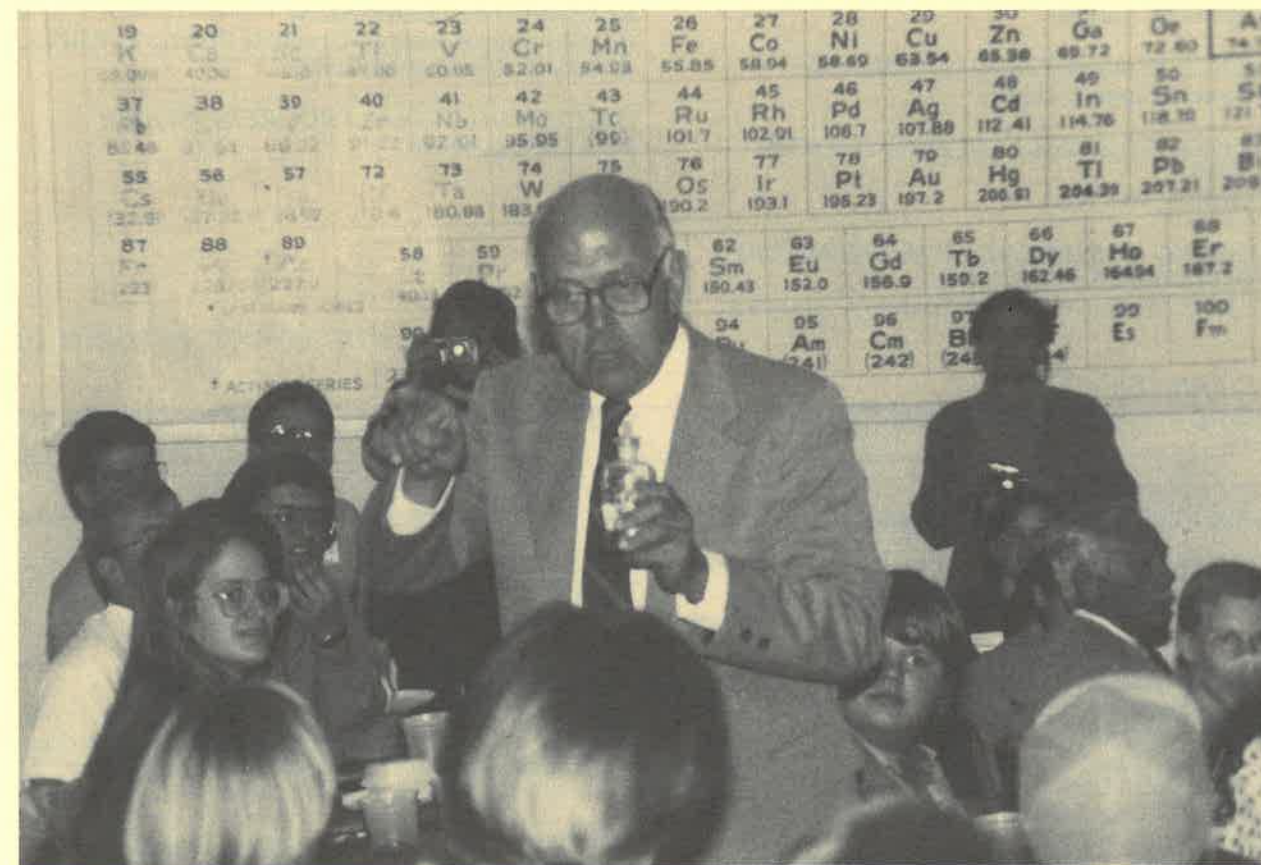
#### CHEMISTRY WEEK

In keeping with a recent nationwide effort to stimulate interest in chemistry, the week of April 1-7 was designated as the first annual "KU Chemistry Week" by the Student Affiliates of the local ACS section. These students did a splendid job of organizing several events open to the university community and to the public.

The program began on Tuesday with a talk by Ron McCutcheon from the US Environmental Protection Agency. Ron described the responsibilities and operational methods of the EPA and used colorful slides to illustrate several clean-up projects in which he had been involved.

On the following day, Dr. Bob Armstrong from duPont gave a talk describing the various divisions of duPont and the products and processes produced by (or under development by) each division.

Thursday's activities involved 30-40 junior high school students from Lawrence and Topeka who were given tours of the new science library and several research laboratories in Malott Hall. They were then treated to a hamburger supper just prior to the finale of the week's events, which was Emeritus Professor Clark Bricker's "World Famous Chemistry Magic Show". The audience included not only the junior high



Clark Bricker demonstrates chemistry magic during Chemistry Week.

students but also a crowd of more than 100 KU students and faculty and other interested persons. As always, "Brick" fascinated the audience for nearly an hour with a combination of science, showmanship, and just plain magic!

#### 1990 HONORS BANQUET

The annual Departmental Honors Banquet, held at noon on Saturday, May 5, was well attended by faculty, students, spouses, parents, and a few invited administrators. The speaker this year was Dr. Paul G. Gassman, Regents Professor of Chemistry at the University of Minnesota and current President of the American Chemical Society. His address was entitled "Can Chemistry Be Ready for the 21st Century?".

The awards presented and students receiving them are as follows:

**OWEN W. MALONEY SCHOLARSHIPS:**  
(Outstanding First-Year Students in Chemistry)  
Tu Thanh Bui, Jason B. Wittmer.

**EXCELLENCE IN GENERAL CHEMISTRY:**  
Emmanuel V. Dalavai, Hutch H. Humphreys, Brett A. Napier, Cuong T. Nguyen, Ralph H. Park.

**EXCELLENCE IN ORGANIC CHEMISTRY:**  
(One-Semester Course) Julie L. Stadler; (Two-Semester Course) Jana L. Adams, Deborah S. Brown, Eapen K. Jacob, Kevin M. Latinis.

**EXCELLENCE IN ANALYTICAL CHEMISTRY:**  
Brent A. Porter, Kenon S. Qamar.

**TAFT AWARD FOR EXCELLENCE IN PHYSICAL CHEMISTRY:**  
Kevin E. Hughes, Wei Wu.

**OUTSTANDING ACHIEVEMENT IN CHEMISTRY TO GRADUATING BS STUDENTS:**  
Steven D. Gray, Sonja Jobe Davis. Nancy Winchester Eilerts.

**CLARK E. BRICKER AWARD:**  
(Outstanding Second-Year Chemistry Major) Sing Hwa Chong.

**JACOB KLEINBERG AWARD:**  
(Outstanding Research by a Junior): Jana L. Adams.

**FASSNACHT SCHOLARSHIP:**  
(Outstanding Advanced Student in Chemistry) Wei Wu.

**SORG SCHOLARSHIP:**  
(Outstanding Beginning Students in Chemistry) Natividad Ruiz, Ralph H. Park.

**AWARD FOR OUTSTANDING ACHIEVEMENT IN CHEMISTRY TO GRADUATING SENIORS PURSUING A CAREER IN MEDICINE:**  
Arnold R. Cabrera, Diane L. Senne, Shawn T. Simons, Duane M. Stillions, Robert D. Strang, Jennifer

K. Tiller.

**AMERICAN INSTITUTE OF CHEMISTS AWARD:**  
(National Award to an Outstanding Senior in Chemistry) Nancy Winchester Eilerts.

**ALPHA CHI SIGMA AWARD:**  
(Outstanding Graduating Senior in Chemistry & Chemical Engineering) Michael D. Kaufman.

**ACS SECTION AWARD:**  
Jennifer K. Tiller.

**SNYDER SCHOLARSHIP:**  
(Outstanding Woman Chemistry Student) Nancy Winchester Eilerts.

**H.P. CADY AWARD:**  
(Outstanding First-Year Graduate Students) L. William Kueper III, Dongbo Zhang.

**OUTSTANDING FIRST-YEAR TEACHING ASSISTANTS:**  
L. William Kueper III, Shiranthi Jayawickreme.

**RAY Q. BREWSTER AWARD:**  
(Outstanding Graduate Teaching Assistant) Rominder Singh.

**PHILLIPS/McCOLLUM SUMMER RESEARCH FELLOWSHIPS:**  
(Outstanding Advanced Graduate Students) Michael A. Letavic, Jayachandra Reddy.

**HIGUCHI DOCTORAL PROGRESS AWARD:**  
Beth Thomas-Miller.

Please fill in this form and return it to Professor Grover Everett, Department of Chemistry, University of Kansas, Lawrence, KS 66045.

NAME \_\_\_\_\_

KU DEGREE and YEAR RECEIVED \_\_\_\_\_

PRESENT POSITION \_\_\_\_\_

ADDRESS (if any change) \_\_\_\_\_

PERSONAL NEWS (Please write this exactly as you would like for it to appear in the next newsletter)

COMMENTS ON NEWSLETTER (content, format, etc.)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Our Department receives generous assistance from the KU Alumni Association in distributing its newsletters. We believe a strong and informed alumni group can be one of the most important supports of a department and of a university, and we urge all our former students and colleagues to join the Alumni Association and assist in its exemplary efforts on behalf of the University. Annual dues for membership are \$35 single or \$40 for husband and wife; life-memberships are available.

Contribution to the Paul and Helen Gilles Fund enclosed.

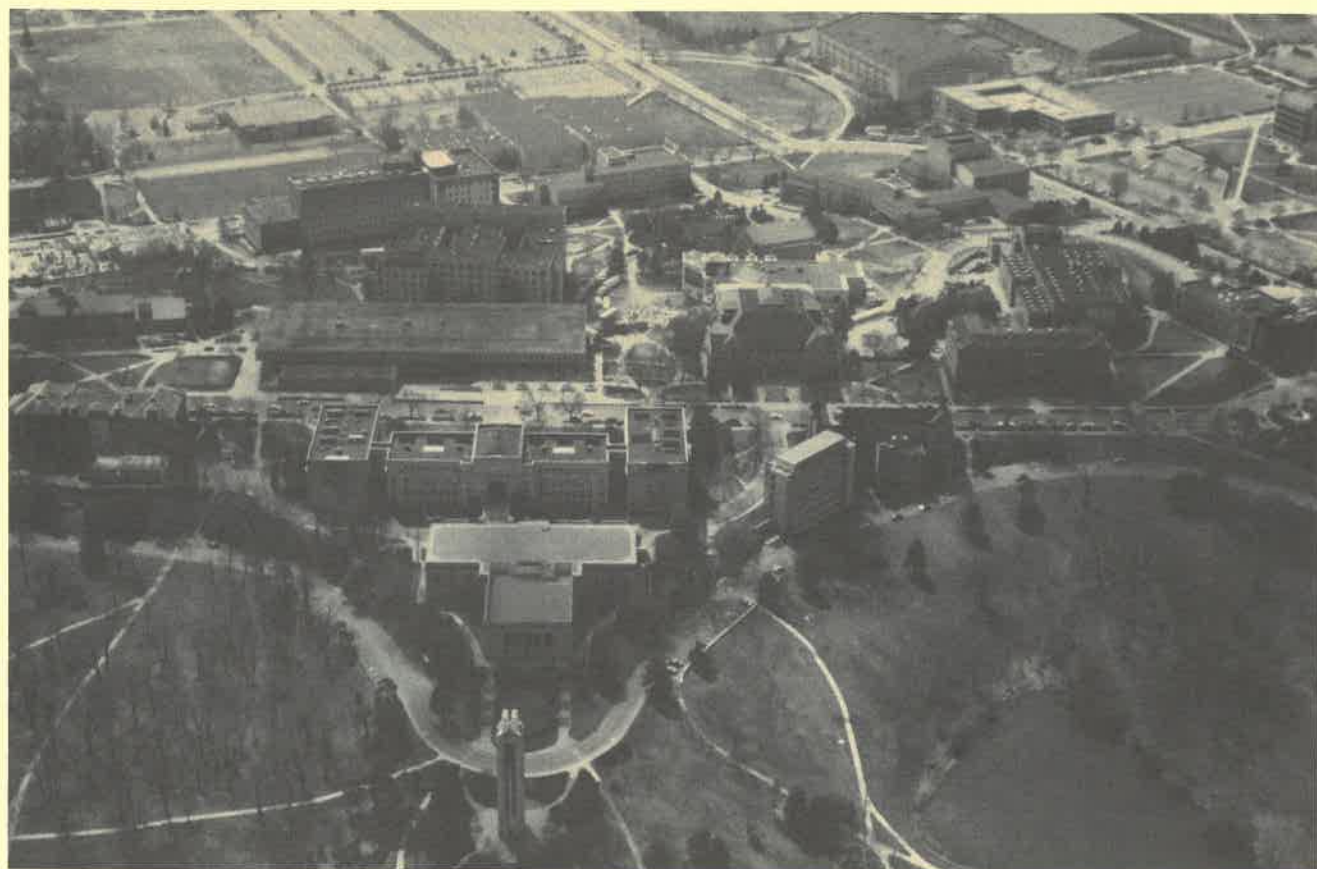
Contribution to the J.K. Lee Memorial Fund enclosed.

ALUMNI NEWSLETTER  
DEPARTMENT OF CHEMISTRY  
UNIVERSITY OF KANSAS

JUNE 1990



KU  
CHEM  
HAWK



1989 aerial photograph of the campus looking south (courtesy of the Lawrence Journal World). In reference to new buildings described in the newsletter under Changes on Campus, one can see the Dole Building (under construction) as a light area near the left margin; the new Science Library is just visible behind Hoch Auditorium; the new parking garage and the Anschutz Sports Pavilion are in the upper right of the photo, near Allen Fieldhouse; and New Green Hall (dark windows) and Burge Union are at the right margin, near the top.