Greetings

There are many measures of the success of an academic science department: faculty awards and honors for teaching and research; faculty publications in national and international journals; external research grant funding; quality and productivity of graduate students and postdoctoral fellows; and the quality and vigor of the undergraduate program. As you will see in the Highlights section of this issue, by all these measures 1990-91 was a very successful year for the Division of Biological Sciences.

Notwithstanding the excellent year enjoyed by our faculty and graduate students, advances in our undergraduate program clearly stand out above all others. We introduced a new laboratory based course, Neurobiological Techniques; a computer simulated laboratory in Genetics, computer assisted modeling in Ecology and General Biology, and an honors section in an existing course, Introductory Biology.

We have moved to personalize the freshman and sophomore years by reducing the size of laboratory and discussion sections in Introductory Biology, by introducing a second lecture section in Introduction to Cell Biology thus reducing the student-teacher ratio, and by creating the EXPRESS Program (EXPosure to REsearch for Science Students) which we will highlight in the next issue.

The renewed emphasis on our departmental undergraduate honors program and undergraduate research opportunities has been amply rewarded. More than one-fifth of last year's BA and BS recipients also received a departmental honors certificate. Forty of our undergraduates participated in either on or off-campus research internships. Eight of those students presented papers at the Missouri Academy of Sciences and the Argonne National Laboratory Undergraduate Symposia. A total of 18 undergraduates received special scholarships; 14 graduated with latin honors (five summa cum laude, three magna cum laude, six cum laude); 10 were elected to Phi Beta Kappa; and 28 were selected as Phi Beta Kappa Junior Honor Students.

And we have more changes planned. If Proposition B—the education reform and funding package that will go before Missouri voters on Nov. 5 passes, we would introduce more lecture sections in Introductory Biology to reduce class size thus increasing student-faculty contact in the freshman year. We would convert Vertebrate Physiology from a junior-senior level course taught once a year to a sophomore-level course taught both semesters, thus providing our students a laboratory experience in physiology early in their career at MU. We would update our classroom and laboratory instructional equipment and continue to introduce modern technology, including computers and laser video discs. We are committed to improving the quality of undergraduate instruction.

This issue of Alumni News contains the second of three installments of responses to the Alumni History Questionnaire. The responses were selected at random. If yours has not yet appeared please be patient, it will be in the Winter 1992 issue. In the meantime, let me encourage you to keep in touch and let us share your news with your fellow alumni.

Homecoming this year is the week of Oct. 13-19. The campus is planning a number of special activities for alumni about which you will hear more later. I hope you will take the opportunity to visit campus. When you do, please stop in and say hello.

Sincerely,

John David, Chairman
Highlights of 1990-91

Six biology undergraduate students, Errol Kolen (Kansas City, Mo.), Douglas Novinger (Columbia, Mo.), Blaine Easley (Liberty, Mo.), Rachel Glidden (Joplin, Mo.), Robert Jordan (Joplin, Mo.) and Lori Pennington (Excelsior Springs, Mo.), presented the results of their independent research projects at the annual meeting of the Collegiate Division of the Missouri Academy of Sciences. Errol won first place honors and Doug received the third place award. All six students were supported by the MU Hughes and McNair Internship Programs.

Professor George Smith and a postdoctoral associate, Dr. Jamie Smith, wrote a feature article in the prestigious journal Science. The article described a new technique for surveying millions of peptides for their ability to bind to antibodies or hormone receptors. This technique has the potential to revolutionize current practices in drug discovery. The research is funded by a $400,000 award from the National Institutes of Health.

Professor Richard Sage has also received a $400,000 grant from the National Institutes of Health, to screen wild mice populations for AIDS-type viruses. The hope is to identify an animal model system in nature which can be used to better understand the disease in humans, and eventually to produce an AIDS vaccine.

Professor John Faaborg organized and was host of the 1990 annual meeting of the Inland Bird Banding Association in Columbia. The meeting drew 55 attendees from 13 states, with presentations ranging from local projects to research in the neotropics. John was also elected a fellow of the American Ornithologist's Union and a member of the Education Committee of the Organization for Tropical Studies.

Professor Donald Miles has developed a portable fluorescence monitor. The advantage of this instrument is its portability; it can be taken in the field to monitor the effects of environmental stress on plants in their natural environment. The Environmental Protection Agency is especially interested in the device to detect soil and water contamination in hazardous waste clean-up sites.

Professors John Walker and Don Riddle simultaneously reported the first evidence for cell surface receptors with protein serine kinase activity. Cell surface receptors are important in transferring growth and differentiation stimuli across cell membranes. Although other receptors had been identified previously, these are the first that phosphorylate proteins on serine residues. Walker's kinase was identified in maize (corn) and reported in Nature. Riddle's kinase was identified in the soil nematode, Caenorhabditis elegans, and reported in Cell.
The summer of 1990 saw the inauguration of the High School Teacher Summer Research Internship Program, sponsored by the Howard Hughes Grant awarded to Biology, Biochemistry, Chemistry and Physics. Seven teachers spent six weeks each participating in ongoing research projects in the laboratories of MU faculty mentors. All reported a new level of excitement which will undoubtedly be transmitted to their students. One measure of the success of the 1990 program is the increased number of applications for the Summer 1991 Program.

The division instituted a new program for undergraduates in 1990-91, the EXPRESS (EXPosure to REsearch for Science Students) Program. Funded in part by the Hughes grant, the EXPRESS Program placed 10 entering minority freshmen in research laboratories as student helpers. This provided a source of income for the student while at the same time providing the student with a faculty mentor and a support group consisting of the postdoctoral fellows, graduate students and undergraduate research interns also in the laboratory. The EXPRESS program is designed to reduce the dramatic loss of students interested in science that is common during the first two years of college.

Professor Carl Gerhardt was elected a fellow of the Animal Behavior Society and Professor Gerald Summers completed his term as president of the National Association of Biology Teachers.

Of our 68 graduating seniors in 1990-91, 14 earned Latin honors (five summa cum laude, three magna cum laude, six cum laude) and 10 were elected to Phi Beta Kappa. In addition, 28 of our juniors were selected as Phi Beta Kappa Junior Honor Students.

Lee Belvin (East Prairie, Mo.), Kelly Hornaday (Kansas City, Mo.), Kathryn Jones (Independence, Mo.), David Rudman (St. Louis, Mo.) and John Sears (Columbia, Mo.) received the Division of Biological Science Outstanding Undergraduate Award. David was inducted into MU's Mystical Seven Honor Society and along with Blaine Easley (Liberty, Mo.) was invited to join the campus Mortar Board Honor Society.

Six of our graduate students presented their research in a poster session associated with the fourth annual MU Molecular Biology Week. Suzy Coccolone won first place and Miguel Estevez captured third place honors in an associated poster contest. Suzy, Miguel and Margaret Pateck won honors at the Graduate School's eighth annual Research and Creative Activities Forum last spring.

James Brousse and Daniel Pinheiro received the Outstanding Graduate Student Teaching Award in 1990-91 for their performance in Bio 2 (General Biology Laboratory) and Bio 333 (Vertebrate Histology and Microscopic Anatomy) respectively. Margaret Pateck received the Superior Graduate Student Achievement Award for 1990-91 in recognition of her overall performance in the doctoral program.

Rustico Ramos was an EXPRESS student in the program’s inaugural year, 1990. In the summer of his sophomore year he was selected to participate in a research program at Southwestern Medical Center (Dallas, Texas). As a junior he will be conducting independent research under the guidance of Dr. Thomas Phillips with funding from MU’s Ronald E. McNair Program.
Undergraduate Research Highlights

During the past three years the number of undergraduates participating in research projects has risen dramatically. Not only are our students working with faculty in the division, but many are choosing to work with researchers in the departments of Biochemistry, Physiology, and Anatomy and Neurobiology at MU. These students are gaining valuable experience that will prepare them for graduate and professional programs. They are co-writing papers with their mentors and presenting their work at local, regional and national scientific meetings. One of the major reasons for this increased involvement in research is the funding of Undergraduate Research Internships through MU’s $1 million, five-year grant from the Howard Hughes Medical Institute. Not only has this grant provided direct funding for some outstanding students, it has also raised awareness of research opportunities among the students and has served as a catalyst for other undergraduate research programs on campus. In this issue we highlight a few of our many undergraduates who have developed into outstanding research students.

Kelly Hornaday and Doug Novinger

Kelly Hornaday of Kansas City, Mo., and Doug Novinger of Columbia have both worked under the guidance of Dr. Felix Breden studying the ecological and evolutionary genetics of the Trinidad guppy. Kelly was selected to present her research at Argonne National Laboratory Undergraduate Research Symposium, and Doug received a third place award for his presentation at the Missouri Academy of Science. Kelly accompanied Dr. Breden to Trinidad to collect guppies and has worked with Dr. Stephen Alexander to gain experience with molecular biology techniques that will aid her in her research. In addition to his project with Dr. Breden, Doug spent time in the genetics laboratory of Dr. Kathy Newton and assisted Dr. John Faaborg with his on-going studies in avian ecology. Kelly plans to continue her collaborations with Dr. Breden and Dr. Alexander as a master’s student, while Doug plans to enter a graduate program in ecology and evolution in the fall of 1992.

Blaine Easley and David Rudman

It is unusual for two fraternity brothers and student government activists to both also be involved in cutting-edge biomedical research. Blaine Easley and David Rudman have done just that. Both have been active members of Pi Kappa Alpha fraternity and have held positions of responsibility in student government organizations on campus. Blaine, a native of Liberty, Mo., was appointed as the legislative director for the Associated Students of the University of Missouri, and David, of St. Louis, Mo., served as the speaker of the Senate of the Missouri Students Association. Blaine was selected as a finalist for Greek Week king and David was elected as MU’s Homecoming king. Both were selected for the MU Mortar Board honor society. They have also excelled in their studies and with their research. Blaine and David both graduated with honors in Biological Sciences. Both conducted research as Hughes Undergraduate Interns. David worked with Dr. Robert Hoffman at Truman Veterans Hospital in Columbia studying the immunology of connective tissue disease. Blaine worked with Dr. George Smith in our division to develop important techniques for the ground-breaking epitope library project. Blaine and David will continue to make an impact on the University community — both started Medical School at MU this fall.
Undergraduate Research Highlights......

Kathryn Jones

After five years of near perfect study at MU (her only B was in Physics), two majors (Microbiology and Philosophy) and three different research projects, Kathryn Jones’s problem wasn’t getting into graduate school, but deciding which one to attend! Kay applied and was accepted into graduate programs in molecular genetics and cell biology at Berkeley, Chicago, Columbia, Duke, Johns Hopkins, Washington University and Wisconsin and was selected as an alternate at Stanford. After numerous visits and consultations with her faculty mentors, Kay decided to enter the University of Chicago this fall with plans to focus on developmental biology and molecular evolution. While at MU, Kay worked under the guidance of Dr. George Smith and presented her research at Cold Spring Harbor’s Bacterial and Phage Genetic Meeting. She also worked in the laboratory of Dr. Helen Bradley-Mullen in the Department of Medical Microbiology. A native of Independence, Mo., Kay opted to spend the summer of her junior year far from home as she participated in a summer research program at Princeton University. Kay was also an active member of the Philosophy Club and has a special interest in looking at the philosophical issues surrounding the interaction of people, science and technology.

Amy Rudolph

Before Amy Rudolph begins graduate studies in genetics at Washington University this fall, she will have three substantial research projects behind her. Amy spent the summer of her junior year at Eli Lilly Pharmaceutical Co. in Indianapolis participating in their very competitive summer research internship program. In addition to working on her project, Amy had the opportunity to meet with many industry scientists to discuss their research fields and get good advice on graduate programs.

During her senior year at MU, Amy was awarded a Hughes Undergraduate Internship to work with Dr. Linda Chapman. Amy’s research focused on mapping a recombinant *Bacillus subtilis* plasmid. After graduating with honors, Amy accepted a summer research position in the Animal Health Care Division of Pfizer Inc., located in her hometown of Lee’s Summit, Mo. After receiving her PhD, Amy hopes to work as a researcher in private industry.

Tammi Gibbons

Tammi Gibbons, originally from Rhode Island, was selected to participate in Western Washington University’s Undergraduate Marine Science Program for the Winter 1991 Semester. The program is funded by a grant from the National Science Foundation and provides educational, travel and living expenses. Tammi took course work in Marine Science, attended seminars and workshops, explored career opportunities and conducted independent research during the semester. At the end of the program she attended an international meeting of marine biologists and limnologists in Nova Scotia. She is no stranger to research; in 1990 she participated in Iowa State University’s Summer Internship Program for Women in Science and Engineering. At Iowa State she analyzed data on llama demographics gathered by her faculty mentor during his visits to South America. Now back at MU, Tammi is conducting an independent research project on freshwater clam ecology under the direction of Dr. Gerald Summers. This project is funded by a grant to MU from the Ronald E. McNair Post-Baccalaureate Achievement Program sponsored by the U.S. Department of Education. In between research projects and classes, Tammi serves as a Hughes Undergraduate Teaching Assistant for General Botany and Introductory Biology. After receiving her degree from MU, Tammi plans to attend graduate school and specialize in Marine Biology.
Abraham Eisenstark Receives Byler Distinguished Professor Award

Each year the University of Missouri honors one of its faculty with the Byler Distinguished Professor Award for "outstanding abilities, performance and character." The 1990 recipient was Professor Abraham Eisenstark.

Abe is an outstanding scientist with a true international reputation. The application "internationally known" often means merely that an individual's name is recognized outside the United States. With Abe it is much more than that. He is well known, respected and his opinions are not only valued, they are actively sought by premier investigators overseas. He spent two long sabbaticals in the top institutions in Western Europe and has delivered numerous major addresses, by invitation, throughout the world. Abe has been a visiting professor at the University of Paris, University of Leicester (England), Medical Biology Laboratories (Netherlands), University Institute of Microbiology (Denmark) and the Brookhaven National Laboratories in the United States.

Abe's research career spans five decades. His PhD dissertation in 1948 detailed for the first time why penicillin stopped infection: the drug prevents the formation of the bacterial cell wall and thus stops bacterial growth and reproduction. The dissertation results were published in Science that same year. Among his other noteworthy contributions are: (1) definition of the nature of Newcastle virus and the observation of "incomplete" viral particles suitable for use in vaccines; (2) development of recombinationless strains of Salmonella typhimurium; (3) the discovery that bacteriophage can transfer plasmid genes, as well as chromosomal genes; and (4) establishment of the antigenic and morphological properties of the mutator phage, mu-I. The latter bacterial virus has been extremely important in understanding gene transposition, and in the development of modern molecular genetics and biotechnology.

Most recently, Abe has been examining the varied responses of bacteria to oxidative stress caused by near-ultraviolet light. The analysis of oxidative damage is being pursued in bacteria because of the sophisticated genetic analysis possible in lower organisms. The information collected in bacteria, however, has important implications for the understanding of oxidative diseases, skin cancer—one of the quickest growing human health problems—and the aging process in all organisms, including man. Abe and Dr. John McCormick, professor of chemistry, established that near-ultraviolet (near-UV) radiation, as found in ordinary sunlight, is both lethal and mutagenic in bacteria. Both effects are the consequence of the production of hydrogen peroxide, a near-UV photobypoduct. Bacteria respond to near-UV irradiation by increasing the rate of synthesis of a set of detoxification enzymes including catalase, exonuclease III and superoxide dismutase. The synthesis of two of these enzymes, catalase and exonuclease III, is regulated by a new gene, katF, first identified in Abe's lab as a sigma factor with global regulatory capabilities.
Abraham Eisenstark

Professor Abraham Eisenstark and James Schaidnagle discuss their research project. James is a high-school teacher who participated in the Hughes Summer Program under Abe's mentorship.

Dr. Philip E. Hartman, William Gill Professor of Biology at Johns Hopkins University, ranks Abe among the top five researchers in the world in the area of biological effects of ultraviolet radiation. In the last 10 years Abe has written all the major reviews in this area, by invitation. His research program has been continuously funded, since 1949, by the National Institutes of Health and the National Science Foundation.

Abe's teaching style is best described as enthusiastic; he challenges students to learn about and understand science, not just to accumulate facts. Abe developed four courses in his tenure at MU, and at one time or another taught all but one of our courses in the general area of microbiology. Abe's skills are most evident when he is working with an advanced undergraduate or graduate student on a research project in his lab. Students gravitated to his lab and no wonder, the training they received was excellent, the intellectual environment outstanding and the support exceptional. His students have gone on to professorships at Auburn, South Dakota, Montana, Arkansas, Iowa, Iowa State, Albert Einstein, Louisiana State and Texas Christian universities as well as the University of Istanbul, M.D. Anderson Cancer Center (Houston), National Genetics Institute (Japan) and the Rocky Mountain National Laboratory.

In the administrative arena, Abe served as program director and head of the Molecular Biology Section of the National Science Foundation for one year before moving in 1971 to MU as director of the newly formed Division of Biological Sciences, a position he held until 1980. Abe's tenure saw an influx of new faculty judiciously chosen to add balance to the existing strengths of the division and movement of the division into the upper tier of biology departments in the country. After nine years as director, Abe returned to research and teaching.

Following mandatory retirement in 1990, Abe accepted a position as acting director of the Cancer Research Center, a privately funded organization in Columbia. He maintains a small lab in Tucker Hall and continues to train both graduate and undergraduate students. For Abe, science is fun. He loves his work and shows little sign of slowing down.

Abe has served on the editorial boards of the Journal of Bacteriology and Intervirology and on the executive committees of the America Society for Photobiology, the International Committee on Taxonomy of Viruses, and the Argonne National Laboratory. He twice served on National Science Foundation grant review panels. In 1986 Abe received the MU Thomas Jefferson Faculty Excellence Award and in 1989 he was selected as the Outstanding Research Scientist in Missouri by the Missouri Academy of Science. The Byler Distinguished Professor Award is a fitting cap to his career at MU.
John Faaborg Receives Arts and Science Purple Chalk Award for Excellence in Teaching

One of the honors most prized by MU faculty is the Purple Chalk Award for Excellence in Teaching. The Arts and Science Student Government selects up to six recipients each year, from among the many faculty nominated by their students. This year’s recipients include Professor John Faaborg.

In his first 15 years at MU, Professor Faaborg has become the consummate teacher, at all levels and in all formats. He personally developed and instituted three courses at MU: Sociobiology, Avian Ecology and Advanced Community Ecology. John has regularly taught six other courses: Basic Environmental Studies, Introductory Biology for Science Majors, Community Biology, Ornithology, Evolution and General Ecology. In addition he has regularly offered a seminar in Tropical Ecology and wrote a very well received textbook Ornithology: An Ecological Approach.

Three courses in particular demonstrate both the breadth and depth of John’s commitment to teaching. Four years ago the division instituted a new course, Bio Sci 10, Introductory Biology for Science Majors. For this one-semester freshman-level course, we select our best faculty as instructors and charge them to infuse the excitement of science into their lectures. John has excelled in this venue. He starts with a classroom filled with more than 200 freshmen who are initially only semi-interested in anything more than memorizing facts, and whose questions rarely go beyond the classic “will this be on the exam?” At the end of the semester John leaves these same freshmen really interested in biology as a dynamic, experimental science, and asking thoughtful questions that go to the heart of the subject matter. Their interest has been reawakened and indeed many are on the way to a successful career in biology.

Much of John’s success in Bio 10 is attributable to the amount of time and energy he devotes to the laboratory portion of the course. The field exercises which John has designed allow the students to collect real data from real organisms in their natural environment. John accompanies the students on their field trips. This personal attention surely contributes to his success with his students and their success with the subject matter.

Tropical Ecology is a graduate seminar with a limited enrollment of 15. The centerpiece of the course is a 10-day field trip to Mexico which John arranges and personally manages. The students are exposed to an environment unlike any they may have seen before, an environment which is both currently relatively unspoiled and yet imminently threatened. They return with an appreciation for tropical ecology that is unmatched by and probably surpasses that provided at any other university.

John’s interest in students goes far beyond the traditional lecture or even laboratory setting. He has encouraged undergraduate participation in his own research program, and many of these students have gone on to graduate school and now are headed for professional success. John recently was awarded support from the Missouri Department of Conservation to develop a six-year Undergraduate Summer Research Internship Program for 27 select students who will do field work in the Missouri Ozarks each summer. He has also had a number of graduate students, all of whom have continued their education elsewhere or developed successful professional careers.

The division has a lot of very good teachers, and a few excellent ones. John clearly falls in the latter category and is truly deserving of the the Purple Chalk Award.
MU is Host of Neuroscience Satellite Symposium

Faculty and students at MU enjoyed a unique opportunity to mingle and discuss their research in an informal setting with preeminent neurobiologists from around the country. Three of our faculty, Professors Allan Harrelson, Mark Kirk and Andy McClellan, took advantage of the presence of the annual National Society for Neuroscience meeting in St. Louis, to organize and serve as host of a satellite symposium at MU. The symposium, “Molecular and Cellular Events in Neural Development and Regeneration,” drew more than 80 participants to hear 12 speakers, including the keynote address on prenatal development of the visual system and brain, “Disappearing Neurons and Transient Circuits in Brain Development,” by Professor Carla Shatz from Stanford University.

Speakers presented an overview of their specific research area and then detailed recent advances in their laboratories. Although all the research described used model organisms, primarily invertebrates but including some lower vertebrates, the hope clearly is that the knowledge gained can someday be applied to humans. The proceedings will be published in a special issue of the Journal of Experimental Zoology to be edited by Professors Harrelson, Kirk and McClellan.

Argonne Symposium for Undergraduates Draws MU Students

Three of our seniors recently participated in the first Argonne Symposium for Undergraduates. More than 150 outstanding college students were selected to participate in this national conference held Nov. 2-3, 1990. Blaine Easley, Kelly Hornaday and Jodie McIntire traveled to Argonne National Laboratory, outside of Chicago, to communicate the results of their undergraduate research projects at the symposium. Blaine’s research focuses on finding diagnostic peptides for an autoimmune disease. His mentors in the division are Professor George Smith and Postdoctoral Fellow Jamie Scott. Kelly is working with Dr. Felix Breden to study the correlation between female preference and attractive male characters in the Trinidad guppy. Under the guidance of Dr. Allan Harrelson, Jodie has examined the expression of Fasciclin 2, a protein that may guide nerve outgrowth in the developing grasshopper nervous system. The division is very pleased to have had such strong undergraduate representation at this national symposium, which is planned to become an annual event.

Graduate students, including Daniel Pinkiero, center, and David Cain, right, relax between talks at the neuroscience symposium.
Profiles of Former Faculty

Professor Robert (Bob) Breitenbach retired in August of 1986 after 26 years at the University of Missouri. He was designated an emeritus professor at the spring 1987 commencement ceremony.

Bob came to the University in 1959 as an assistant professor of zoology and rose through the ranks, becoming chairman of zoology in 1964 and professor of zoology in 1967. In 1971 the departments of Zoology and Botany were united in the new Division of Biological Sciences. Bob served the division as associate director for 1974-1978 and as director of undergraduate studies from 1978 until his retirement.

Bob’s research interests included: the ontogeny of immunological maturation; hormonal control of calcium metabolism; ontogeny of thermal regulation; and parental, social and reproductive behavior in birds. His research program was supported by both the National Science Foundation and the National Institutes of Health and resulted in 38 research publications in major journals. He served as mentor for 11 master’s and eight doctoral students.

This highly productive research career is nonetheless dwarfed by Bob’s contributions in teaching and advising. He taught Vertebrate Physiology, Vertebrate Embryology, Introductory Biology, Zoology, Comparative Anatomy, Physiological Zoology, Comparative Endocrinology, Avian Physiology and Developmental Biology. In the later years of his career he routinely and voluntarily carried almost double the teaching load of most faculty without any sacrifice in quality. In 1983-84 he received the Arts and Science Student Government Purple Chalk Award for Excellence in Teaching. He was arguably the major driving force in the development of an integrated biological sciences curriculum in the 1970s and early ’80s.

Bob was committed to increasing the role of writing in the curriculum. He served on the Campus Task Force on English Composition which eventually recommended the completion of a “writing-intensive” course for graduation and the formation of a Campus Writing Program and Campus writing board to establish and promote these courses and monitor the effectiveness of the new graduation requirement. Bob was a charter member of the writing board and continued to serve even after his retirement.

When Bob assumed the mantle of director of undergraduate studies, he became the primary adviser for biology undergraduates and the principal “premed” adviser on campus. He undoubtedly wrote more letters of recommendation than any other faculty member at MU. Not content to only advise students once they had enrolled at MU, Bob recognized a need to provide professional advising for prospective freshmen during Summer Welcome. Under his guidance, biological sciences became the first department on campus to advise its incoming majors during Summer Welcome. The project worked so well that it is now copied by almost half the departments in arts and science.

After a year of rest and relaxation, Bob returned to MU as a guest professor and now teaches one course each year, including Zoology and Introductory Biology. He and his wife, Hazel, continue to live in Columbia and would be delighted to hear from former students.

Retirements

Professor Arthur Harrison received his BS, MS and PhD in microbiology from the University of Maryland. He spent 11 years at Vanderbilt University, during the last five of which he helped to establish the new Molecular Biology Department. From 1963-67 he was senior biologist in the Biology Division at Oak Ridge National Laboratory and in 1967 he moved to MU as professor of biological sciences. Art was a mentor for numerous undergraduates interested in microbiology, as well as for 12 graduate students at Vanderbilt and five more at MU. He taught Introductory Biology, Microbiology, Microbes and Man and Systematic Microbiology.

Art’s research interests have encompassed the characterization of lactobacilli in turkeys, survival of bacteria under low temperature and starvation environments, photo-dynamic killing in Escherichia coli, and microbial succession and mineral leaching in artificial coal spoils. The latter studies led to the identification of a new species, Acidiphilium cryptum, a heterotrophic bacterium from acidic mineral environments. His research has been funded by the National Institutes of Health, National Science Foundation, the Atomic Energy Commission and the National Cancer Institute. Art’s recent research has used ribosomal RNA sequencing to establish the phylogeny among terrestrial and marine sulfur and iron-oxidizing bacteria. He has continued these studies following his official retirement last fall.
Retirements

Professor Dan Mertz received his BS in botany from Miami University in Ohio and his PhD in plant physiology from the University of Texas at Austin. Following a one-year postdoctoral appointment he joined the MU faculty where he remained until his retirement this spring. Dan has published more than 25 research articles in plant physiology, growth and development. He served as a mentor for two doctoral and five master's degree students. Dan twice received a Fulbright-Hays Fellowship as professor of plant physiology at the Université de Dakar, Senegal. This past year he received a third Fulbright-Hays Fellowship as professor at Hassan II University, Rabat, Morocco. At MU Dan taught General Botany, Plant Physiology and Plant Growth and Development, a course he developed.

Dan's current research focus is plant improvement through somatic hybridization. Under appropriate conditions proplasts from different plant species can be induced to fuse in vitro, combining their genetic information to create new hybrids. This presents an expedient approach to overcome sexual incompatibility barriers between species and allows the introduction of genes that confer resistance to biological and environmental stress into domesticated species from wild cultures. He is now developing techniques to select somatic hybrids through the use of protoplasts generated from transgenic plants carrying drug resistant markers. He will continue these studies when he returns to the United States this fall.

deRoos Returns

Professor Roger deRoos returned last fall from a one-year research leave at the University of Washington. He was a visiting scholar at the Fisheries Research Institute within the School of Fisheries on the Seattle campus and an independent investigator at the Friday Harbor Laboratories on San Juan Island. deRoos, who normally teaches Histology (now called Microscopic Anatomy), Comparative Endocrinology and occasionally Introductory Biology, used his research leave to investigate the metabolic fuels used by the brain of the spiny dogfish shark, *Squalus acanthias*.

deRoos reports that his leave was professionally and personally exciting and profitable. He developed surgical techniques to implant cannulae into the arteries and veins serving the dogfish brain. Serial arterial and venous blood samples were collected from both fed and fasted dogfish for periods of up to two weeks, and the levels of metabolites considered potential candidates for brain fuels were measured. The arterial venous differences evident in the raw data suggest that the brain of both fed and fasted animals extracted only the ketoneβ-hydroxybutyrate from the plasma and released only lactate. deRoos sent brain tissue samples back to MU, where he is now determining enzyme activity levels to support his tentative conclusion that the dogfish brain is fueled primarily by lipid metabolites. This conclusion is particularly exciting because it is at variance with the generally accepted view that all vertebrate brains use glucose as a primary fuel.

In addition to completing studies which could only have been done using the unique facilities at Friday Harbor, Roger presented research seminars, and consulted with numerous resident faculty and students.

Off To Other Pastures

Lou Sherman, professor of biological sciences, and chairman of the division from 1986-89, left Columbia in May 1989 to head the biology department at Purdue University.

Lou had been at MU for 16 years and cited "wanderlust" as one reason for the move. Other reasons included the opportunity to lead a department twice the size of our own and the ability to collaborate with a larger number of leading scientists in his own and allied research fields. Most important, however, was the low state support for higher education in Missouri and the attendant problems that caused the division in providing modern teaching and research facilities and in hiring and keeping excellent faculty.

Lou was one of the faculty who helped convince then-MU Chancellor Barbara Uehling to develop the MU interdepartmental Molecular Biology Program, and then to confer upon it eminence status. He served on the Molecular Biology Program Advisory Committee from its inception.

From all reports, Lou and his family are thoroughly enjoying Purdue.
Alumni Honored by the College of Arts and Science

William V. Miller, MD

Dr. William V. Miller is chief executive officer of the Bi-State Chapter of the American Red Cross. The son and grandson of MU graduates, he was born in Kansas City where he graduated from Southwest High School. He received his BA in biology from MU in 1962; while an undergraduate he was active in Beta Theta Pi fraternity. He subsequently attended Medical School at MU, and received his MD degree in 1966. He then studied in a number of medical centers in the East, including University of Rochester School of Medicine, the National Institutes of Health and University of Kentucky College of Medicine before returning to his native state in 1973 to direct the Missouri-Illinois Regional Red Cross Blood Services.

Dr. Miller's professional interests have included not only blood transfusion, and transfusion-transmitted diseases, but also transplantation immunology. He has also devoted considerable attention to teaching medical professionals, especially those from Central and South America.

He has served as corporate vice president of the American National Red Cross for Transplantation Services, and has held a number of national leadership positions, including president of the American Blood Commission, and chairman of the U.S. Food and Drug Administration Advisory Panel on Blood and Blood Products.

Dr. Miller has also been very involved with the medical, cultural and civic life of St. Louis. He currently serves, for example, on the AIDS Foundation of St. Louis, and is a member of the Contemporary Art Society of the St. Louis Art Museum. In recognition of his service the St. Louis Junior Chamber of Commerce presented him with its Distinguished Service Award. His many hobbies include automobile restoration, sailboat racing, and American folk and bluegrass music. He is married and is the father of three children.

Chung Uk Park, PhD

The 1991 recipient of the Arts and Science Distinguished Service Award has compiled a splendid history of involvement with the University of Missouri-Columbia and with the College of Arts and Science.

Born and raised in Jeonju, Korea, where he received his primary and secondary education, Chung Uk Park came to the United States to pursue higher education, and received a BA degree from Georgetown College and a PhD in biology from MU in 1974.

Dr. Park taught science in public schools for three years in Kentucky and Ohio before he began his graduate studies. He is a member of the American Association for the Advancement of Science, the Botanical Society of America, the National Biology Teachers Association, the Iowa Academy of Science, the Association of Korean Scientists and Engineers, the Missouri Academy of Science and the Tissue Culture Association. He is currently professor of biology at Lincoln University and serves as president of the Missouri Academy of Science. He is a member of the advisory board for the Missouri Coordinating Board for Higher Education that is charged with building a consensus regarding statewide systemic initiatives in science, mathematics and engineering education.

Dr. Park has been a central figure in the growth of a vibrant and dynamic relationship between MU and Korea. He has served on the board of directors of the University of Missouri-Columbia Korean Scholarship Foundation and as adviser for the MU Alumni Association Korea Chapter Scholarship. His many talents, good will and generosity amply justify his receipt of the 1991 A&S Distinguished Service Award.

Awarded for the first time in 1989, the A&S Distinguished Service Award allows the college to acknowledge with enormous gratitude one of its many friends whose efforts on behalf of the college have greatly enhanced the quality of its programs -- to the great benefit of students, faculty and alumni.
News from Alumni

*This is the second installment of responses from the first Alumni History Questionnaire. The third installment will appear in the next issue.*

1920-29

Esther Jones (MA, Botany, 1927) taught biological sciences at Moberly Junior College for 17 years and then worked in biological research at Eli Lilly Pharmaceutical Co. (Indianapolis, Ind.) for 21 years. While in Indiana she was active in the Girl Scouts as a nature consultant. She currently resides in Metairie, La.

1930-39

Jane Elizabeth Welsh French (AB, Zoology, 1938; MS, Zoology, 1939) taught biology in the St. Louis public schools for 18 years. She is now retired and living in St. Louis.

John M. Poehlman (PhD, Botany, 1936) was a professor of field crops/agronomy at MU from 1936-80. He was elected a fellow of the American Society of Agronomy and the Crop Science Society of America. Dr. Poehlman has received the MU Faculty/Alumni Award, the Distinguished Faculty Award and the Thomas Jefferson Award. He is retired and resides in Columbia.

Albert W. Diddle (AB, Zoology, 1930; MA, Zoology, 1933) received his MD from Yale University in 1936. After three years at Southwestern Medical College, he moved to the Memorial Research Center and Hospital, University of Tennessee (Knoxville) where he served as professor and chairman of obstetrics and gynecology from 1955-72. Dr. Diddle was recognized as the distinguished physician in the state of Tennessee and received the Silver Humanitarian Award from the University of Tennessee. He continues to reside in Knoxville.

1940-49

Van T. Harris (AB, Zoology, 1941; PhD, University of Michigan, 1949) worked for the U.S. Department of the Interior until his retirement in 1976 when he received the Meritorious Service Award. He currently resides in Clearville, Pa.

Bob S. Kimpton (AB, Zoology, 1943; MA, Education, 1945) has taught chemistry and physics for 32 years in Versailles and Morgan County R-2 schools. He currently lives in Columbia.

Margaret Joanne Hoops McGregor (AB, Zoology, 1946) married Roy H. McGregor in 1951 and raised four children. She was a partner in the Max Paul Inn and has done quite a lot of traveling, including two summers at the University of Strasbourg, France. She currently lives in Wichita, Kan.

Margaret Harris (AB, Zoology, 1949) served as assistant director and then senior director of the YMCA in Knoxville, Tenn., from 1976-89. She is currently program manager of the University of Tennessee Conference Center.

1950-59

Lorin W. Roberts (MA, Botany, 1950; PhD, Botany, 1952) is currently professor of botany at the University of Idaho. He has written four books on vascular differentiation and plant tissue culture, received the Distinguished Faculty Award from the University of Idaho, and was elected a fellow of the AAAS in 1971. Dr. Roberts has been a visiting professor in Japan, Italy, India, Australia and England. He will retire next year.

James F. Fairchild (AB, Zoology, 1951; MD, Northwestern University, 1953) has a solo practice in family medicine in Perryville, Mo.

R.L. Frazier (MA, Zoology, 1951; MD, University of Cincinnati, 1955) had a private practice in Charleston, Mo., for 23 years and was an emergency room physician in Sikeston, Mo., for seven years. Dr. Frazier is a charter fellow of the American Academy of Family Physicians. His five children all graduated from college, two from MU. Three of his children served in the Peace Corps (Sierra Leone, Papua New Guinea and Thailand).

Joseph C. Friedman (AB, Zoology, 1955) received an MBA from the University of Alabama in 1968. From 1956-84 he served as a colonel in the USAF (Strategic Missiles). Since 1984, Col. Friedman has been manager of the Westinghouse Electric Marine Division (Vandenberg AFB OPS).

Daniel L. McKinley (AB, Zoology, 1955; MA, 1957) recently retired from the Department of Biological Sciences, State University of New York at Albany. He continues to live in Albany.

1960-69

Larry Blaser (AB, Zoology, 1961) moved into journalism with a master's in journalism from MU. He has served as a medical writer and press officer for the National Heart, Lung and Blood Institute and is currently a free-lance medical writer in Lebanon, Tenn. In 1985, Larry received the American Medical Writers Award for Writing for a Professional Audience.

Michael A. Belinson (AB, Zoology, 1961) obtained his MD from MU in 1965 and then spent one year in Vietnam learning acute care anesthesia under fire. He has a solo practice and is chairman of the Department of Anesthesia, Freeport Medical Center, Freeport, Ill. Michael and his wife, Helen, have a 21-year-old son at Northwestern, a foster daughter, and have hosted a Swedish high-school exchange student for a year.

John C. Listerman (AB, Zoology, 1964; MD, 1974) has been program director of the Salina, Kan., Family Practice Residency and is currently medical director of Blue Cross and Blue Shield of Kansas.

R. Vic Falkner (AB, Zoology, 1965; MA, Zoology, 1967) later received an MA in library science and an MS in pharmacology from MU. He was a programmer/analyst at MU and Baxter-Travenol Inc. He is currently semi-retired and a self-employed writer trying to market his first novel.
Richard Kahn (AB, Zoology, 1966; PhD, Physiology, Georgetown University) has been chief scientific and medical officer of the American Diabetes Association since 1985.

Gary L. Replogle (AB, Zoology, 1966; MS, Biology, 1972) has taught sixth grade science in Mexico, Mo., Junior High School since graduation.

Carl Nelson Ringer (AB, Zoology, 1967; MD, University of Tennessee, 1970) is an ophthalmologist with Eye Consultants Inc. in Cape Girardeau, Mo.

Austin R. Tinsley (AB, Zoology, 1968; MD, 1972) is board certified in family practice and was chief of staff of Lucy Lee Hospital in Poplar Bluff, Mo. He is currently plant physician with Briggs & Stratton in Williamsville, Mo. Austin and his wife have six children and raise and race thoroughbred horses.

Stephen D. Maus (AB, Zoology, 1969; DDS, UM-Kansas City) is in full-time dental practice in Republic, Mo., and current president of the Springfield Dental Society.

Guy Neenan (AB, Zoology, 1971) continued his education with an MS in environmental health science from the University of Kansas. He is a safety engineer with Intel Corp., Santa Cruz, Calif. He also is a private consultant in the areas of environmental toxicology and indoor air quality.

Katherine Gollahan (AB, Zoology, 1971; PhD, Microbiology, University of Alabama-Birmingham, 1983) is a senior scientist with the Seattle Biomedical Research Institute and an affiliate assistant professor in periodontics, University of Washington.

J. Richard Lister (AB, Zoology, 1971; MD, University of Illinois) completed his residency in neurological surgery at the University of Florida. He returned to the University of Illinois where he is a clinical associate professor of neuroscience in the College of Medicine.

Michael B. Torrence (AB, Zoology, 1971; MD, University of Kansas, 1974) is a senior pediatrician at Children's Medical Associates in Wallingford, Pa.

Stephen R. Bremerkamp (BS, Zoology, 1972) is a customer sales representative with Wells Fargo Alarm Services, Hazelwood, Mo. He has two sons, Joseph and Benjamin.

Michael J. Spezia (AB, Zoology, 1972; DO, Kansas City College of Osteopathic Medicine, 1977) has been vice chief of staff and a member of the board of directors of Metropolitan Medical Center in St. Louis. He is currently a self-employed physician and surgeon in St. Louis.

Dan H. Rathgeber (AB, Zoology, 1972; DDS, UM-Kansas City, 1976) is in private dental practice in St. Louis.

Guy Neenan (AB, Zoology, 1971) continued his education with an MS in environmental health science from the University of Kansas. He is a safety engineer with Intel Corp., Santa Cruz, Calif. He also is a private consultant in the areas of environmental toxicology and indoor air quality.

Katherine Gollahan (AB, Zoology, 1971; PhD, Microbiology, University of Alabama-Birmingham, 1983) is a senior scientist with the Seattle Biomedical Research Institute and an affiliate assistant professor in periodontics, University of Washington.

J. Richard Lister (AB, Zoology, 1971; MD, University of Illinois) completed his residency in neurological surgery at the University of Florida. He returned to the University of Illinois where he is a clinical associate professor of neuroscience in the College of Medicine.

Michael B. Torrence (AB, Zoology, 1971; MD, University of Kansas, 1974) is a senior pediatrician at Children's Medical Associates in Wallingford, Pa.

Stephen R. Bremerkamp (BS, Zoology, 1972) is a customer sales representative with Wells Fargo Alarm Services, Hazelwood, Mo. He has two sons, Joseph and Benjamin.

Michael J. Spezia (AB, Zoology, 1972; DO, Kansas City College of Osteopathic Medicine, 1977) has been vice chief of staff and a member of the board of directors of Metropolitan Medical Center in St. Louis. He is currently a self-employed physician and surgeon in St. Louis.

Dan H. Rathgeber (AB, Zoology, 1972; DDS, UM-Kansas City, 1976) is in private dental practice in St. Louis.

Michael S. Doblin (BS, Zoology, 1972; DDS, Howard University College of Dentistry, 1979) is president of Dental Arts Ltd., specializing in reconstructive and cosmetic dentistry, in Woodcliff Lake, N.J.

Curt Pueschel (AB, Botany, 1972; MA and PhD, Botany, Cornell University, 1978) is an associate professor of biological sciences at the State University of New York, Binghamton.

Mark R. Telle (AB, Microbiology, 1973; MBA, 1979) is vice president for administration with Telletire Auto Service, St. Louis.

Michael J. Roggi (BS, Zoology, 1973; BS, Pharmacology, St. Louis College of Pharmacy, 1977; MBA, Washington University, 1984) is district sales manager for Abbott Laboratories, Arlington Heights, Ill.

Joseph J. Beatty (MA, Zoology, 1973; PhD, Zoology, Oregon State University, 1979) is director of the biology program at Oregon State University.

Virginia L. Harr Johnson (AB, Microbiology, 1974; MD, 1978) has a private practice in general surgery in Chickasha, Okla.

Rial O. Rolfe (BS, Biology, 1974; PhD, Microbiology, 1978) is associate professor and associate chairman of the Department of Microbiology, Texas Tech University Health Sciences Center.

Joy Hoemann Rodenberger (AB, Biology, 1974; BS, Physicians Associate Program, University of Oklahoma, 1976) is a physician's assistant in thoracic surgery with the Veterans Association Medical Center in Oklahoma City.

Tom Tinsman (BS, Biology, 1975; MD, 1979) is a self-employed physician in Fort Smith, Ark. He enjoys coin collecting, hunting and gun collecting.

Darrell Lathan (AB, Biology, 1975) is sales manager for Commercial Distribution Center in Leawood, Kan.
Martin E. Sanders (AB, Microbiology, 1975; MD, University of Chicago, 1979) was chief of medical staff fellows in the Laboratory of Clinical Investigation at the National Institute of Allergy and Infectious Disease, National Institutes of Health. He is currently a physician-scientist in hypersensitivity diseases research and clinical pharmacology with the Upjohn Co. in Kalamazoo, Mich., where he received the Pharmaceutical Research and Development Productivity Award in 1988. Martin is interested in the development of new therapeutics for rheumatic, allergic and immunological diseases. He has published more than 40 papers and received a patent on a quantitative assay for human terminal complement activation.


Mark D. Vogt (AB, Biology, 1976; DO, Kansas City College of Osteopathic Medicine, 1980) is practicing internal medicine with the Wetzel Clinic in Clinton, Mo.

Randolph D. Campbell (AB, Biology, 1977) is director of research and development for Computer Support Co. in Addison, Texas.

David A. Nichols (AB, Biology, 1978; MD, 1982) is an assistant professor of clinical medicine in the Department of Family and Community Medicine at MU.

Brian K. Kirchner (AB, Microbiology, 1978) is a microbiologist in the Animal Care Services Division of Eli Lilly and Co., Indianapolis.

Duane K. Smith (AB, Microbiology, 1978; MS, Veterinary Microbiology, 1981) was product director for corporate development for the Biotechnology Division of Ortho-Pharmaceutical Corp., and immunotherapy team leader for the Johnson & Johnson Pharmaceutical Sector. He is now product director for Therapeutic Products, Pharmaceutical Division of Centocor Inc., a leading biopharmaceutical company specializing in the development of monoclonal antibody products for health-care needs.

Jeff Anglen (AB, Biology, 1979; MD, Johns Hopkins University, 1983) is an assistant professor of orthopaedics at the UM-Kansas City Medical School and an orthopaedic surgeon with the Midwest Orthopaedic Clinic in Kansas City.

Scott R. Steelman (AB, Biology, 1979; DO, College of Osteopathic Medicine, 1984) was a primary care physician with the U.S. Navy Medical Corps. He is now a staff physician with Occupational Health Services Inc. in Kansas City.

Richard S. Jones (AB, Biology, 1979; PhD, Molecular Biology and Biochemistry, Wesleyan University, 1984) is an assistant professor of biological sciences at Southern Methodist University.

William Howard Marx (BA, Zoology, 1974; DO, College of Osteopathic Medicine, 1976) is a practicing physician and member of the America College of Surgeons and Society of Critical Care Medicine. He and his wife are raising their three children in New Hartford, N.Y., 1980-89.

James William Golden (PhD, Biology, 1983) is an assistant professor of biology at Texas A&M University in College Station. He was selected as a National Science Foundation Presidential Young Investigator in 1987.

Scott Goldberg (AB, Biology, 1980; MD, 1984) is in the Division of Otolaryngology at Jackson Memorial Hospital in Miami.

James Rhea (AB, Biology, 1980; DDS, University of Illinois, 1984) is a self-employed dentist in St. Louis.

Peter M. Gubany (AB, Biology, 1980; DO, UM-St. Louis, 1984) owns his own practice, Eyecare Washington, in Washington, Mo.

Anna Mater Jadaa (BS, Biology, 1981; BS, Spanish Literature, 1981) received her master's of international management from the American Graduate School of International Management in 1983. She is a branch leader in the San Francisco office of Remedy.

Ann De Genova Marty (AB, Biology, 1981; MD, 1985) is a physician and clinic instructor in family practice at the Carle Clinic, Monticello, Ill. She and her husband, Tim Marty, have a 2-year-old son, Michael Thomas.

Cynthia Hecker Brown (AB, Biology, 1981; MD, 1985) completed a residency at the Medical College of Georgia. She is a physician with Asheville, N.C., Pediatrics. She has been married for two years and is expecting her first child.

Karen Albers Lickenbroke (AB, Biology, 1982; MD, 1986) has a private practice in partnership with Mary Fox in family practice. Karen and her husband, Kevin, have a 1-year-old son, Andrew Ross, and live in St. Louis.

David Braverman (AB, Biology, 1982; PhD, Counseling Education, University of Iowa, 1990) has been director of sports programming for Learfield Communications and assistant director of residence life at Cornell College. He plays in a Dixieland band and served as a volunteer officer in Sigma Tau Gamma for eight years. In 1987 he received the Michael J. Steinbeck Fellowship, the Jack Anson Fellowship and was named Outstanding Master's Degree Student in Counseling Education. In July 1990 he became assistant dean of students and director of men's studies, Richmond College, Va.
Carol Conley (AB, Biology, 1982; BS, Health Related Professions, 1984) is a medical technologist in pathology at the University of Columbia.

Kathleen R. Ellis Weatherford (AB, Microbiology, 1982; DO, University of Health Sciences, 1988) is a resident in internal medicine at Lakeside Hospital, Gladstone, Mo.

Julio D. Vallette Jr. (AB, Biology, 1982; MD, 1987) was a resident in pediatrics at the University of South Florida. In July 1990 he accepted a neonatal fellowship at the University of Miami.

Pamela Garrett Cannell (AB, Biology, 1983) is pursuing her MBA at the University of New Orleans. She is business manager of the biochemistry department at Louisiana State University Medical Center.

Mark A. Scantlan (AB, Biology, 1983; DDS, UM-Kansas City, 1987) is a dentist at Omni-Care Dental Clinic in Owensville, Mo. He and his wife, the former Diana Renee Pfeiffer, have three children, Jered, Abby and Tyler.

Dean Norton (AB, Biology, 1984) entered the MU School of Medicine in 1989.

Thomas Davis (AB, Microbiology, 1984; MA, Biology, 1988) is in his third year at the MU School of Medicine.

Julie A. Allman (AB, Biology, 1985; MA, Environmental Science, Southern Illinois University, 1989) is an environmental control inspector with the Air Pollution Control Division of St. Louis County Government.

David Weaver (AB, Biology, 1985; JD, 1988) is an associate in the law firm of Greensfelder, Hemker and Gale, St. Louis.

Salvatore G. Lombardo (BS, Biology, 1985; BS, Pharmacy, St. Louis College of Pharmacy, 1989) is a registered pharmacist with Medicare-Glaser Pharmacy in Maryland Heights, Mo.

Scott Montgomery (AB, Biology, 1986; MD, University of Kansas, 1990) began a surgery preliminary residency at St. Luke’s Hospital in Kansas City in July 1990. From there he will proceed to a residency in urology at the University of Kansas.

Joseph A. Taylor (AB, Biology, 1986; MD, 1990) is a resident physician in internal medicine with the Mayo Clinic, Rochester, Minn.

Rachel Janssen (AB, Biology, 1987) traveled through Europe for a month after graduation. She is currently a medical research technician in the Department of Metabolism, Washington University School of Medicine. She is considering entering graduate school in marine biology.

Barbara Rodriguez (AB, Biology, 1987) worked as a technician at the MU Veterinary Diagnostic Lab and the University of Florida Veterinary Medical School. In June 1990 she entered the PhD program at Washington University, St. Louis.

Steven G. Hefner (AB, Biology, 1987; MS, Agronomy, 1990) is a research associate in agronomy at MU.

Karen L. King (AB, Biology, 1988) is in the PhD program in biological sciences at Florida State University.

Jeff Stein (AB, Biology, 1988) finished his master’s in health administration in 1990 and is currently an administrative specialist with Humana Inc., Humana West Hills, Los Angeles.

Anne M. Joseph Adams (AB, Biology, 1988; BS, Cytotechnology, University of Kansas Medical Center, 1989) worked as a cytotechnologist and instructor in cytotechnology in the Department of Pathology/Oncology at the University of Kansas Medical Center and then the University of California-Irvine Medical Center. She enjoys working in Southern California because the patient population is an "epidemiological goldmine."

Future alumni were honored at a brunch for graduating seniors on May ninth.
Special Thanks

The Divisional faculty, staff and students sincerely appreciate the unsolicited gifts to the Biological Sciences Development Gift Fund in 1990 and 1991 made by the following individuals and corporations. These contributions are used to support undergraduate scholarships, internships and the development of innovative teaching methods.

Michael E. Ashley  
John R. Bilello  
Cancer Federation  
Ciba-Geigy Corp.  
Leonard W. Goodin  
Craig Hammond  
Robin Kennedy  
Dr. & Mrs. Gary L. Mueller  
Paul H. Thompson