VETERINARY MEDICAL REVIEW

Vol 21 No. 1 Spring/Summer 2006

Leadership Experience

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A New MRI

Sutures, Stethoscopes, and Bicycles

The Comparative Medicine Training Program

Dogs and Humans Fight NCL Disease

MU's Haunted Houses

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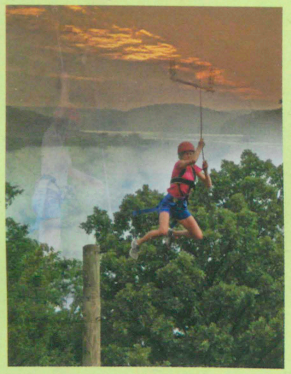
on the cover...
Close your eyes and jump.
Welcome to your first day at the MU College of Veterinary Medicine.



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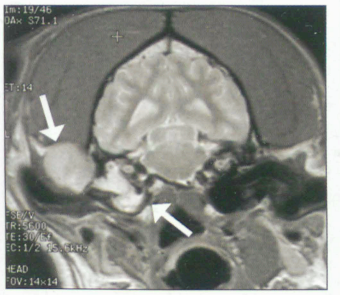
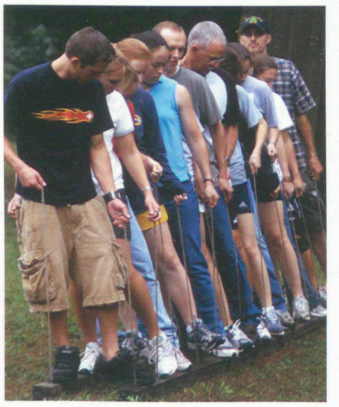
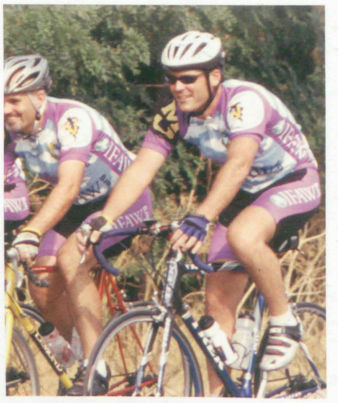
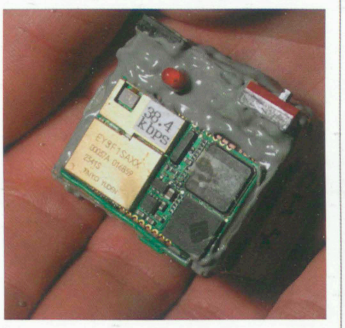


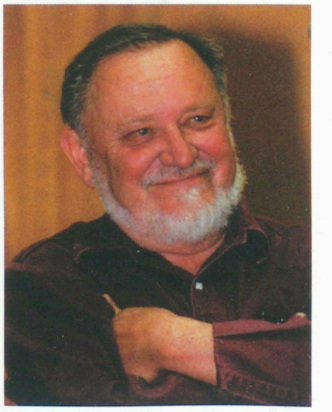


Serving the Community

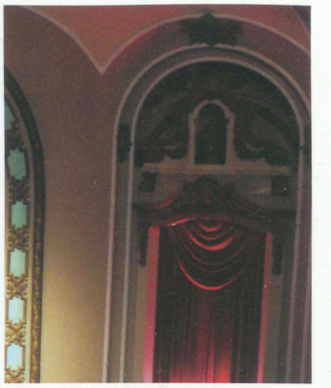




Teaching Healing Discovery



Veterinary People



Departments

Taking Hold *of* New Reins

John Dodam Assumes a New Role As Associate Dean for Academic Affairs

Since joining the University of Missouri in 1995, I have had the pleasure to meet many students, veterinarians, clients, and friends of the College of Veterinary Medicine. Some of you may know me as a teacher, an anesthesiologist, or a researcher. Others know me as one of the 'mule guys' who travels with the Missouri Mule Team and the Mule Club throughout our state.

As a faculty member, I enjoy the teaching, clinical service and research components of my job. I get a lot of satisfaction when I see students understand and apply the concepts of medicine that they were taught in the classroom. I relish the feeling that comes with helping injured or ill animals and the excitement associated with scientific or clinical discovery.

In August of 2005, I got the opportunity to wear a new and different hat... a really different hat. I am now the College's Associate Dean for Academic Affairs.

My mother was overjoyed when I took this position and told relatives that I had finally grown up and got a *real* job. I have to admit that it took me a little longer than my mother to rejoice about my career move! It took some orientation, adjustment, and a little training from MU CVM staff members Ms. Kathy Seay and Ms. Sharon Kimbrell to get the specific requirements of the job figured out.

As Associate Dean, I now derive satisfaction when the College of Veterinary Medicine makes progress as an institution of instruction. I feel that I serve as an advocate for veterinary professional education, and that my job is to optimize the environment for student learning. I can live vicariously though the academic achievements of our students and faculty.

More than anything, I realize that any progress that we make at the College of Veterinary Medicine extends beyond the office walls and requires input and support from faculty, students, alumni, and citizens of our state. Together, we can advance our College to an even greater role of leadership in the profession.

Consequently, I would like to share my goals for our College. Specifically, I feel that:

- The College of Veterinary Medicine needs to increase recruiting efforts to attract and train the best and brightest individuals to be veterinarians.
- We need to admit and train veterinarians who can serve our society's needs in companion animal medicine, food and fiber animal practice, and in the area of public health and preventative medicine. Our admissions process and curriculum may require adjustment to meet these needs.
- The University of Missouri should produce thinkers who can ask and answer important biomedical questions. The veterinary curriculum should allow students the flexibility to incorporate graduate training into their professional education.
- We need to address the high cost of education and the debt load faced by our graduates. This is probably one of the most pressing and perplexing problems faced by the veterinary profession.

My position focuses primarily on admissions and the professional curriculum. I encourage you to contact me about the direction that we are headed as a college, specifically in the area of recruitment, admissions, or professional training. I can be reached by telephone at 573-884-6774 or by e-mail at dodamj@missouri.edu. ■

Around the Co

Researcher Identifies Mechanisms That May Lead to Arthritis for Some Patients

According to the Centers for Disease Control, more than 20,000 people contracted Lyme disease in 2003. Typically, about 60 percent of people afflicted also develop a painful form of arthritis. One University of Missouri College of Veterinary Medicine researcher is trying to determine how this type of arthritis develops in an effort to identify causes of arthritis and how to prevent it.

"While most people affected with Lyme disease do develop arthritis, some do not and we're attempting to identify the differences between the two," said Dr. Charlie Brown, an assistant professor of veterinary pathobiology. "These different degrees of resistance happen in almost every disease. We need to determine the specific mechanisms the body uses to fight the infection and learn how these might be different when arthritis develops and when it doesn't."

When the body is first infected with *Borrelia burgdorferi*, the agent of Lyme Disease, blood cells called neutrophils are the body's first response to the infection. Neutrophils are recruited to the site of infection in large numbers and die in large numbers. They are summoned to the infection site by a process involving the release of chemical messengers called chemokines. The chemokines act as a type of telecommunication, informing the neutrophils of the infection and telling them where to go. However, in this particular response, the immune system creates a large amount of collateral damage. In an effort to fight the infection, healthy tissue is damaged at the same time in the joint areas of the body where the infection has grown, eventually causing arthritis.

Dr. Brown's research was published in *The Journal of Immunology* and the journal *Infection and Immunity*. In his articles he said that he found that the infected joints did not develop arthritis when neutrophils did not respond to the infection. However, Dr. Brown also found that mice that were infected, but did not have neutrophils attacking the infection, did not experience an increase in Lyme disease bacteria.

"The next step is to determine what cells are making the chemokines responsible for alerting neutrophils about the Lyme disease infection," Dr. Brown said. "If we can stop the neutrophils from getting to the site of the infection, we might be able to stop the arthritis from forming. This line of research might identify new therapeutic targets and could have implications for other arthritis-related research as well."

The research was funded with grants from the National Institutes of Health for about $1 million.

Life is Good When You Are The Hartsburg Pumpkin King

Academic achievements? Professorships? Accolades from the research community? All are virtually meaningless when you are the king. Pumpkin King, that is.

In October, Dale Lenger, supervisor of the MU CVM Middlebush Farm, was named the Hartsburg, Mo. Pumpkin Festival's Pumpkin King.

The Pumpkin King reigns over the small community's celebration. Hartsburg is a Missouri River town between Columbia and Jefferson City.

Pumpkin Kings are selected because of their contributions to the community. Mr. Lenger was cited for his work to help the community recover from a 1993 flood. Since then, he has started a disaster recovery team designed to quickly respond after floods, hurricanes, or tornadoes. The team has already helped in 17 states.

As for being King, Mr. Lenger said it is an honor just to be considered. "There have been kings in the past who have made great contributions to the community," he said. "I feel it is a great honor to follow in their footsteps."

MU Lab Receives Gifts To Fund Arthritis Research

➤ The Comparative Orthopaedic Laboratory (COL) at the University of Missouri College of Veterinary Medicine recently received about $750,000 in gifts to fund the lab's groundbreaking arthritis research.

The laboratory was presented more than $500,000 from The IAMS Company to fund a research assistant professor position. Another $320,000 gift from Robert and Judi Reeves of Columbia, Mo. will establish the Robert and Judi Reeves Endowment in Arthritis Diagnostics. This gift will fund projects, personnel, and equipment directly related to trying to discover ways to diagnose arthritis before it is symptomatic and still reversible or curable.

"The IAMS gift is absolutely vital to our growth and success," said Dr. James Cook, director of the lab, associate professor of veterinary medicine and surgery, and William C. Allen Endowed Scholar for Orthopaedic Research. "We have chosen to use the money to fund a research assistant professor who will focus on understanding and diagnosing arthritis toward finding a cure. The position is at the heart of the lab's mission and work and allows us to really be on the leading edge of orthopedic research," he said.

Dr. Cook said the Reeves gift will help the COL find molecular and imaging markers that tell if arthritis is going to occur, what joints it will involve, and how bad it would be. "This is very exciting work as it could completely revolutionize medicine and treatment of arthritis," Dr. Cook said.

One of the major benefits of the endowments, Dr. Cook said, is that it will help fund preliminary work that researchers hope will lead to larger grants. The lab is one of only a handful of comparative orthopedic laboratories in the world dedicated to arthritis research.

IAMS, a division of Procter & Gamble and provider of pet foods and pet care products, became interested in supporting the COL because of the lab's use of in vitro models for the study of osteoarthritis—a method that avoids the use of research animals while still offering useful, relevant, and timely data.

Robert Reeves said he and his wife wanted to establish their endowment because the research conducted in the lab has the ability to cause sweeping changes in diagnosis and treatment of arthritis. Mr. Reeves himself has had arthritis in his knees, and many of his family and friends have been severely debilitated by arthritis.

Drs. Jim and Cristi Cook, center, surrounded by the Reeves family and friends.

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MU CVM Dean Named to Board of Veterinary College Association

Dr. Joe Kornegay, dean of the College of Veterinary Medicine, was named to the Board of Directors of the Association of American Veterinary Medical Colleges (AAVMC).

The AAVMC represents all veterinary medical colleges in North America in their collective dealings with governmental bodies, veterinary medical organizations, the animal and human health industry, educational and scientific organizations, and the public. It also represents eight departments of veterinary science, eight departments of comparative medicine, two animal medical centers, and three international colleges of veterinary medicine.

Dr. Kornegay earned his DVM degree (Summa Cum Laude) from Texas A&M University and a PhD in Veterinary Pathology from the University of Georgia.

He was named director of the University of Missouri's Veterinary Medical Teaching Hospital in 1994 and dean of the MU College of Veterinary Medicine in 1998.

Previous to his MU career, he was a professor at North Carolina State University's College of Veterinary Medicine where he was named Teacher of the Year for the classes of 1985, 1986, 1992, and 1994. In 1985 he also earned the Norden Distinguished Teacher Award. He was included in the Who's Who in Veterinary Science and Medicine in 1987 and 1991, Who's Who Among Rising Young Americans in 1990, and Who's Who in Science and Engineering in 1991 and 1993.

Among his many awards is the Bourgelat Award, presented by the British Small Animal Veterinary Association. He was also honored by the Muscular Dystrophy Association for his research into the disease in dogs.

Dr. Kornegay directed the American Veterinary Medical Association/AAVMC Joint Task Force on Veterinary Infrastructure in Iraq and Afghanistan on behalf of AAVMC. He also chaired the AAVMC International Affairs Committee which has become very active within the past two years.

The AAVMC was formed in 1966 by the deans of the US and Canadian veterinary colleges. The association represents more than 4,000 faculty, 5,000 staff, 10,000 veterinary students, and 3,000 graduate students at these institutions.

Animal-Human Interaction Focus of New MU Center

For many people, pets are more than a companion. They are beloved family members who provide unconditional love. Now, research has shown that pets not only provide emotional support, but might also help their owners stay healthy. A new center, a partnership between the MU Sinclair School of Nursing and the College of Veterinary Medicine, will begin exploring the benefits of human-animal interaction.

"This new center will study the benefits to both animals and humans when they interact," said Dr. Rebecca Johnson, who holds joint faculty positions in nursing and veterinary medicine and is director of the Research Center for Human-Animal Interaction (ReCHAI). "We are one of 12 centers in the United States dedicated to human-animal issues. However, our center has a different mission. While the other 11 centers are focusing on teaching, animal welfare, and animal advocacy, ReCHAI is focused on research that will investigate the entire package of the human-animal interaction."

Dr. Johnson anticipates collaborating with the other centers on large-scale national research projects. One of the first studies that will be a part of ReCHAI is examining how pets respond when their owners visit them at a veterinary hospital. Dr. Johnson said the program will examine data from both the patient perspective, such as how fast the patient recovers, and from the owner perspective, such as the relative health of the owner while the pet is away from the home.

Research Center for Human-Animal Interaction

One of Dr. Johnson's current studies is determining the effectiveness of pets visiting nursing homes. While pets' benefits to nursing home residents have been scientifically documented by other researchers, Dr. Johnson is examining how pets can help ease the transition from a house to a nursing home during the first six weeks after admission.

"It's amazing how animals affect our lives on an everyday basis," Dr. Johnson said. "They are a social lubricant, they love us unconditionally, and their loyalty is unsurpassed. Previous studies have shown that having these

VETERINARY PEOPLE

C.B. Chastain and Barbra Horrell Presented Veterinary Medicine Dean's Impact Award

➤ Dr. C. B. Chastain and Mrs. Barbra Horrell were recently presented the 2005 University of Missouri College of Veterinary Medicine Dean's Impact Award in recognition of their contributions to helping financially disadvantaged students enter the veterinary medical profession.


Barbra Horrell


Dr. C.B. Chastain

Dr. Chastain and Mrs. Horrell established and managed the college's Pathways to Success in the Health Professions. This summer enrichment program provides high school and college students from low-income households, or from traditionally underrepresented population segments, a hands-on look at what skills are important for a successful career in health-related professions. Mentors guide students through laboratory work, clinical observation, and traditional study. Topics range from diseases afflicting kittens and puppies to advanced equine lameness evaluation.

In the program's 10 years of operation more than 200 students have completed their studies. Of these students, 51 have earned degrees in veterinary medicine. Others have entered other biomedical professional careers. In the last three years, the MU College of Health Professions joined the program, allowing students an in-depth look into human medicine health-related careers, such as physical therapy and occupational therapy.

"The success of our summer programs is due to the collective efforts of many faculty, staff, and students. However, from the program's inception, Dr. Chastain and Mrs. Horrell have provided the essential vision, continuity, and passion," said Dr. Joe Kornegay, dean of the college. "The college is indebted to them and to all of those who have participated over the years."

Dr. Chastain is the college's director of undergraduate biomedical science education studies and Mrs. Horrell is the director of student recruitment and retention.

The Dean's Impact Award was initiated in 1993 by College of Veterinary Medicine Dean Richard Adams to recognize individuals who have made sustained contributions to the college. Thirty people have been recognized since then.

Around the Co

VETERINARY PEOPLE

Two MU CVM Faculty Lead Emergency Care Organization

➤ Two University of Missouri College of Veterinary Medicine faculty members were recently elected to leadership positions in the American College of Veterinary Emergency and Critical Care.

Dr. Tony Mann, associate professor of veterinary medicine and surgery and director of small animal emergency and critical care services at MU's Veterinary Medical Teaching Hospital, was elected president of the organization. Dr. Marie Kerl, clinical associate professor, was elected vice president in a separate election.

Dr. Mann and Dr. Kerl are two of three ACVECC diplomates at the college. The third is Dr. Alisa Reniker, clinical assistant professor.

The ACVECC oversees post-doctoral training programs leading to diplomate (board certified) status in emergency and critical care medicine. To qualify for this status, a veterinarian, generally, receives a minimum of three additional years of specialized training in emergency medicine, surgery, and critical care. This education focuses on the most up-to-date techniques for diagnosis and treatment of life threatening disease processes in and after an emergency.

The emergency and critical care program is one of the centers of excellence at the MU Veterinary Medical Teaching Hospital. Veterinary medical students rotate through the teaching hospital's ICU and post-graduate DVMs undertake their residency programs there. The hospital has agreements with local veterinarians to steer emergency and critical cases to MU during weekends and off-hours. This gives local veterinarians more family time and increases the educational caseload for veterinary students.

MU's ICU is considered one of the most up-to-date in the country. It features wireless telemetry to monitor the vital signs of critically ill or animals just out of surgery.

ACVECC is one of the newest of the 22 recognized veterinary specialty areas. There are only about 178 ACVECC board-certified specialists worldwide, although that number may soon almost double once veterinarians currently in residencies complete their programs. The first diplomates were conferred in 1989.

animals in our lives is good for us socially, emotionally and physically. This center will help with the advancement of that work in addition to obtaining grants to explore how we can make better use of this information to improve the quality of our lives."

Missouri Veterinarian Receives Distinguished Alumni Award

Dr. Ronald M. McLaughlin, retired director of the MU laboratory animal medicine training program, was recognized with Iowa State University's highest honor awarded to alumni of its College of Veterinary Medicine.

He received the Stange Award in Veterinary Medicine, named in memory of a long-time alumnus in recognition of outstanding professional achievements in veterinary education, research, government service, or private practice.

"I am profoundly honored to receive the Stange Award for my efforts in veterinary medicine," Dr. McLaughlin said. "I must confess to being slightly embarrassed at accepting an award for work that has provided so much professional and personal satisfaction, and that has been so much fun."

Dr. McLaughlin is a nationally recognized leader in assuring the health and welfare of animals used in biomedical science. While director of Mizzou's program, he trained more than 80 veterinarians as specialists in laboratory animal medicine, many of whom are leaders in the field.

In 2001, he was the recipient of the highest award of the American Association for Laboratory Animal Science. The Association for Assessment and Accreditation of Laboratory Animal Care, International, presented Dr. McLaughlin with its highest award in 2004.

He currently serves as a private consultant in laboratory animal medicine and science.

College Expands Training in Agro-Terrorism Preparedness

It is widely thought that American agriculture is on terrorists' hit lists. An attack against US food supplies could have a devastating effect on regional and national economies.

Veterinarians, who monitor the food supply from feedlot to grocery, may be the first to see evidence of such a strike.

To train the next generation of veterinarians on what to look for and how to react, the MU College of Veterinary Medicine has been expanding its public health course to include information about bioterrorism and preparedness in the event of a national disaster. This effort was directed by Dr. Ron Tessman, clinical assistant professor of veterinary medicine and surgery.

Recently, the education effort was expanded further through a $200,000 grant from the US Department of Health and Human Services–Health Resources and Services to the MU College of Veterinary Medicine and the Institute for Biosecurity at the Saint Louis University of Public Health. The grant will help better prepare veterinarians through additional workshops, laboratories, and self-directed computer-based training.

One goal is to help practicing veterinarians better identify terrorist-introduced diseases from naturally occurring ones, isolate any problem, collect evidence, notify appropriate governmental agencies, and protect themselves and others from contamination. The grant will also emphasize how veterinarians can administer first aid to themselves or others if they come into contact with a lethal organism. Another goal is to educate future veterinary practitioners on how they may best serve in the event of a national disaster whether it is a biological threat or natural disaster.

A terrorist attack on Missouri livestock could have dramatic consequences. Missouri is mostly a rural state with a substantial portion of its population relying on agriculture. The state's livestock and related products are a $2.5 billion industry. There are more than four million head of cattle in the state.

Livestock production accounts for almost 60 percent of all of Missouri's agricultural receipts, according to the Missouri Farm Bureau. The state is ranked second nationally in cow-calf production. Agriculture is Missouri's second largest industry.

There are about 1,800 practicing veterinarians in Missouri. About half are engaged in exclusive large animal or mixed animal practice.

George Stewart Named Chairman Of MU CVM Pathobiology Department

Dr. George Stewart, who joined the MU College of Veterinary Medicine last year as the McKee-Missouri Professor of Microbial Pathogenesis, was appointed chairman of the Dept. of Veterinary Pathobiology.

The mission of the Pathobiology Dept. is to provide a link between the basic and clinical sciences. This involves acquiring, advancing, and disseminating knowledge in pathology, parasitology, microbiology, immunology, laboratory animal medicine, comparative medicine, genetics, and related disciplines that will lead

ollege

to better diagnosis, control, and prevention of animal diseases.

Before coming to MU, Dr. Stewart was a professor of Diagnostic Medicine and Pathobiology at Kansas State University. His KSU research involved a molecular genetic approach to define the components of bacterial cell division. His work in the laboratory identified two genetic triggers involved in determining the site at which the cell division forms. Such knowledge is important in the development of broad spectrum antibacterial chemotherapeutic agents.

As the McKee Professor, Dr. Stewart studies how diseases occur and are spread. In keeping with the wishes of the McKees, his research mostly involves problems of food-producing animals, such as cattle and hogs.

Dog Walks Work Off Weight MU Researchers Discover

Dogs may be a man's best friend, but they also might be an instrumental tool in weight loss. A new study at MU has found that having a pet encourages owners to get more exercise and results in more weight loss than most nationally known diet plans.

"Our goal was to look for ways to increase the average exercise regimen, and we found being responsible for a pet, such as committing to walk a loaner dog, encouraged people who did not own dogs to walk more often and for longer periods of time," said Dr. Rebecca Johnson, director of the College of Veterinary Medicine's Research Center for Human-Animal Interaction. "Our first study group averaged a weight loss of 14 pounds during the one-year program."

The research project encouraged economically disadvantaged, disabled participants to walk with dogs on a regular, graduated schedule. Dr. Johnson, who collaborated with Dr. Richard Meadows, director of community practice at the Mizzou Veterinary Medical Teaching Hospital, said the participants began the program by walking 10 minutes per day, three times each week. Eventually, the participants walked up to 20 minutes per day, five times each week. During rainy days, the participants walked an inside route.

Having participants engage in a shorter and longer program enabled the researchers to identify which program produced more weight loss. The first group walked for 50 weeks, while the second group walked for only 26 weeks. Dr. Johnson found that the first group averaged a weight loss of 14 pounds, a better result than most of the nationally known weight-loss plans report.

Count Another Accolade for MU VMDL's Donald Schmidt

Add another honor to Dr. Donald Schmidt's collection—the 2006 American Society of Veterinary Clinical Pathology's Lifetime Achievement Award.

Dr. Schmidt is a Wisconsin farm kid who was one of the earliest employees of the Mizzou Veterinary Medical Diagnostic Laboratory. During his long career, he garnered almost every teaching and research award and recognition in his field.

The society's award recognizes members who have advanced veterinary clinical pathology through research and teaching. It recognizes him as a pioneer in veterinary clinical pathology, and as among the small group of anatomic pathologists who started teaching clinical pathology courses within veterinary medicine.

Dr. Schmidt received his DVM degree from Michigan State's College of Veterinary Medicine in 1947. The young graduate had been noticed by the American Veterinary Medical Association who offered him a fellowship in pathology—either at the Mayo Clinic or George Washington University. "Since Wisconsin was my home, I chose the Mayo Clinic in Minnesota," Dr. Schmidt said.

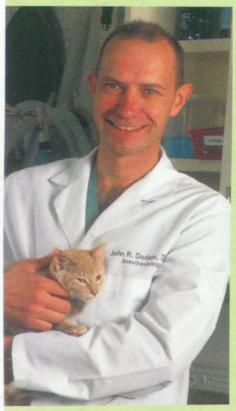
Dr. Schmidt later practiced as a veterinarian for the Brookfield Zoo in Chicago, where he was one of the first veterinarians specifically practicing at zoos. Along the way, he earned his PhD in pathology.

Dr. Schmidt joined the VMDL in 1967. Dr. Larry Morehouse, who was putting the laboratory together with little more than a tattered shoestring for a budget, noticed the new PhD graduate and coaxed Dr. Schmidt, wife and three daughters, to Columbia, Mo. Dr. Schmidt later became the new director of clinical pathology and, because of a tight budget, took care of bacteriology duties at the Veterinary Medical Teaching Hospital, too.

His teaching abilities earned him five Norden Distinguished Teaching Awards, three Golden Aesculapius Teaching Awards, and a Golden Chalk Award. ■

VETERINARY PEOPLE

Dr. John Dodam Named Associate Dean of MU College of Veterinary Medicine



➤ Dr. John Dodam, associate professor of veterinary medicine and surgery and biomedical sciences, was named associate dean for academic affairs at the University of Missouri College of Veterinary Medicine.

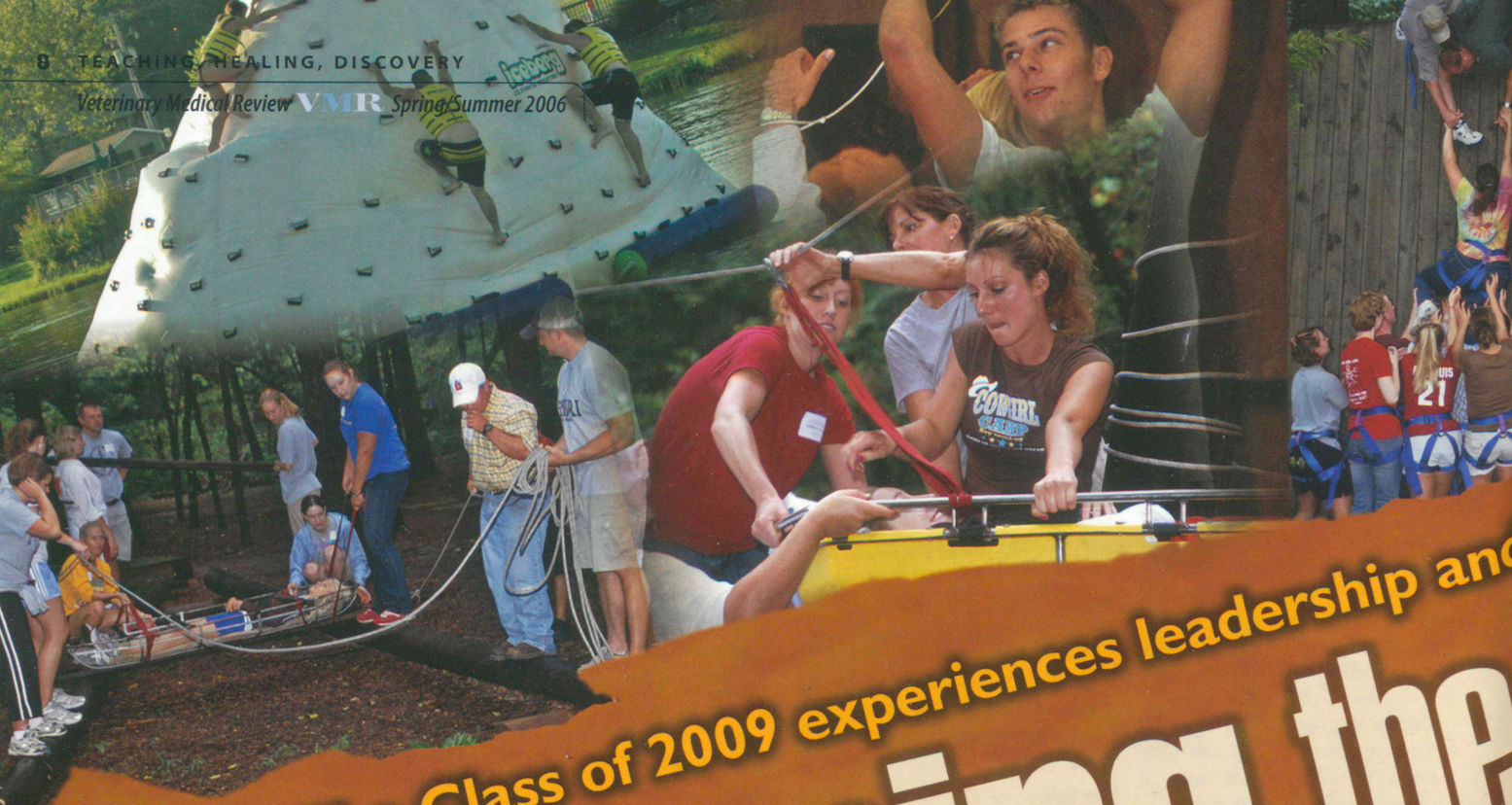
As associate dean, Dr. Dodam will be responsible for admissions, curricular issues, and the pre-veterinary scholars program at the college. He succeeds Dr. CB Chastain, who was recently named director of the college's undergraduate biomedical science education studies.

Dr. Dodam grew up in Maple Heights, Ohio and became interested in veterinary medicine during a high school part-time job at a veterinary medical hospital. He did everything from cage maintenance to landscaping to general maintenance at the clinic. Eventually, he ended up participating in the medical and technical aspects at that and other practices.

He received his doctor of veterinary medical degree in 1985 from Ohio State University. After two years of private mixed-animal practice, he matriculated to North Carolina State University. There, he completed a residency program in anesthesia and earned a master's of science in pharmacology and PhD in physiology. At NCSU, Dr. Dodam was named a National Institutes of Health postdoctoral fellow, and also served as a clinical instructor.

He joined the MU Veterinary Medical Teaching Hospital in 1995, teaching classes during all four years of the curriculum including physiology, pharmacology, anatomy, anesthesiology, emergency and critical care medicine, and clinical anesthesia. He has also taught graduate courses. Dr. Dodam also served as the college's Mule Club advisor.

Dr. Dodam plans to increase the visibility of the MU College of Veterinary Medicine at secondary schools and undergraduate programs in Missouri and surrounding states. He also hopes to work with the faculty to improve the current curriculum and increase the numbers of students co-enrolled in graduate programs and in the Masters of Public Health degree program.



The Class of 2009 experiences leadership and

Learning the

What do climbing ropes, simulating a mountain rescue, and circumnavigating an aerial obstacle course have to do with earning a veterinary medical degree? These tasks build leadership and team-building skills—something the future doctors of veterinary medicine will need in their careers.

Last August, the University of Missouri College of Veterinary Medicine held its first Leadership Experience for the incoming Class of 2009. The retreat, among the rainy and hilly Missouri Ozarks, was conducted by experts trained in leadership and team-building skills. The goal was to start the future veterinarians on their educational and professional careers in the best possible way.

For three days, students dodged raindrops, took meals together, slept in rooms without TVs, and worked with each other to finish a variety of rapid-fire activities. They discussed, negotiated, planned, and worked their way through tough sets of challenges designed to practice what it takes to lead a team and to be a team member. Most importantly, the class got to know and trust each other.

Building Leadership and Teamwork

The unique nature of a veterinary medical education makes good team and communications skills critically important. Veterinary medical schools graduate all or almost all of the students who start the program. This can only be done if students help their colleagues should anyone fall behind in the curriculum.

Since the entire veterinary medical class goes through classroom studies, laboratories, and clinical work together, almost as a single unit, any interpersonal relationship problems can loom large for both the individuals involved and the class as a whole.

After graduation, good teamwork and communication skills remain important as the profession is as much about dealing with people as dispensing medical services. Coupled to this is how small the profession of veterinary medicine is. Lifelong professional associations and friendships are common and important. There are fewer than 80,000 doctors of veterinary medicine in the country—not enough to fill a medium-sized sports stadium. There are more than 700,000 physicians and one million lawyers.

At the retreat, members of the Class of 2009 met for the first time. They were both alike and diverse. Most come from Missouri, but also hail from as far away as Puerto Rico and Taiwan. Twenty-four have Arts and Sciences educational backgrounds, while two-dozen come from an agricultural school. Most have bachelor's degrees, but two have earned masters degrees and one is a PhD. Twenty-three come from farms or small towns, while 49 are from urban areas. Average age is 24. The class's average GPA score of 3.51 indicates that these are some of the best and brightest students. Previous classes have seen a range of backgrounds including retired professional singers, CPAs, nurses, and mid-life career changers.

The activities were designed to challenge these strangers mentally and physically, bringing them together in ways known to quickly build trust, respect, communication, discipline, integrity, and honesty. The

teambuilding at 35 feet

Ropes

MU effort is part of a larger American Veterinary Medical Association-inspired effort to instill more effective team and communication skills in veterinary medical students. Many of the other 31 colleges of veterinary medicine in North America are planning similar programs. MU's effort was one of the first.

Dr. Ron Cott, associate dean for student and alumni affairs, organized the experience. "The veterinary profession is recognizing, from many surveys and studies, that there is a need to develop non-technical skills within our students as they matriculate through the veterinary curriculum," he said. "Success in our profession not only depends on technical skills, but relies heavily on the ability to be a leader and team player, and exhibit excellent communication and interpersonal skills. By providing an opportunity to interact as a class at the beginning of their veterinary educational experience, we hope that we will see a class that works and plays well together."

Dr. Cott said he is anxious to watch the class's progress through observation and faculty feedback to determine if the effort had a positive impact on the Class of 2009. "Being of non-tangible outcomes, it will be difficult to measure and provide data as a scientific study," he said. "So, in the end, it may just be 'did we produce a better product?' Also, I hope to continue with opportunities to further the teaching of the non-technical skills over the four-year program of studies. I do not see this new approach as being anything but a 'win-win' situation, both for the student and the profession."

A Structured Experience

The Leadership Experience was conducted by the Windermere Conference Center, a non-profit organization on 1,300 acres of woods and lakes in the Missouri Ozarks. It hosts groups from corporate leaders to teens in trouble. It conducts activities, conferences, and training seminars in a setting removed from the distractions of everyday life.

The Class of 2009 participated in Windermere's "The Edge," an adventure-based program that uses challenges that carry perceived risks to unify all members into an effective team. The emphasis is on processing how goals are determined, and how to effectively cooperate to finish a complex and difficult task.

One of the tasks given to the students is called Mountain Rescue. Here, an obstacle course of horizontal telephone poles simulates a rugged Rockies' pass. One student is designated as an immobile accident victim and is strapped inside a rescue basket. Other team members must evacuate the injured person through the obstacle course to a make believe helicopter landing site.

To simulate mountain conditions, rescuers must maneuver only on the narrow poles, despite large gaps and tall vertical obstacles. The team is given a rope, some straps, a couple of long boards, and other useful and non-useful items.

The task looks impossible from the beginning of the course. Initially, there is a lot of discussion and differences on how to

continued on page 10

What the Students Thought

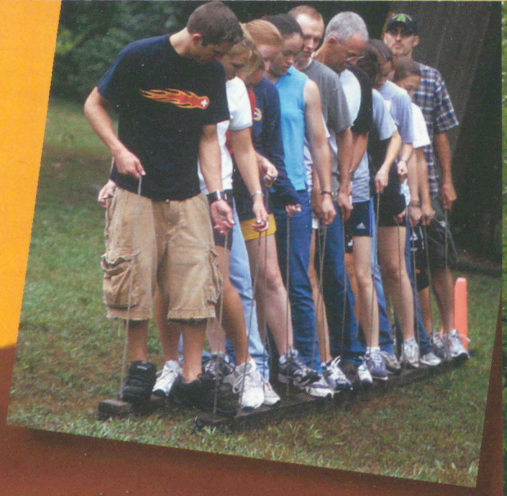
What did the Class of 2009 think about the retreat?

"Much of my initial anxiety about the dynamics of my class has been set at ease," Sarah Quigley said in a thank you letter to the sponsors, Bayer, Nestle Purina, Hill's, Pfizer, AVMA-GHLIT Group Health and Life Insurance, Merial, the Missouri Veterinary Medical Association, and the MU Student Chapter of the American Veterinary Medical

Association. "I loved to apply the teamwork, trust, and communication skills taught through the challenge and rescue courses. With encouragement of my classmates, I got out of my comfort zone and tried these new challenges."

"Most importantly, it allowed us to meet, befriend, and learn to trust my fellow classmates who I will work alongside for the next four years," Rachel Cherico said. "This, to me, makes the experience an enlightening, invaluable, and one-of-a-kind experience."

Future veterinarians will need leadership and team-building skills



proceed. Slowly, the group comes to consensus and starts their mission. Along the way, mistakes are made and new plans drawn. Sub-groups are dispatched to move ahead on the course to prepare for upcoming challenges while the rest of the team deals with more immediate issues.

After a slow start on the comparatively easy first portion of the course, the pace speeds up as the team learns to identify what must be accomplished, discuss options, negotiate differences, and then implement the best plan. Certified instructors oversee all challenges.

Sometimes, the plan required the two long boards to be shakily lashed together to close a wide gap. Students perfected cowboy-style rope throwing to create a taunt line to hoist the victim over a chasm between the telephone poles.

In the two-hour timed challenge, all of the Class of 2009 got their victims to the helicopter landing zone.

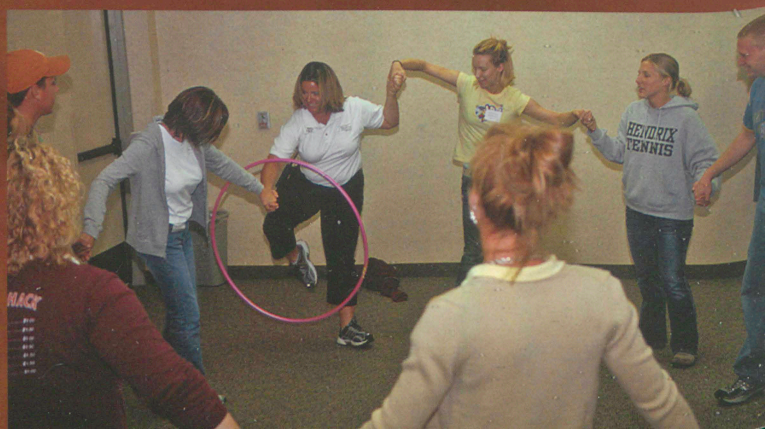
Other activities not only rewarded communication and teamwork, but were also just fun. The Aqua Walk lashed long boards to the feet of a dozen or so people. As if walking as a team in an immensely long shoe, the task was to negotiate an obstacle course of cones. To be successful, the group had to work as a single unit, chanting "left foot up, left foot forward, left foot down" to make progress.

Another daunting challenge was the 20-ft. Wall Climb. Here, with those on the ground pushing and others at the top pulling, each person was helped to reach the summit. Everyone made it, albeit inelegantly at times.

The Edge is usually used by corporations to build interdepartmental unity and understanding among middle- and senior-level managers, or to introduce company wide-employee involvement programs.

While it all seemed like fun to the participants, the exercises provided immediate feedback on decision making, encouraged creative problem solving, provided experience in positive conflict management, developed techniques for effective utilization of resources, explored risk-taking and risk management, showed the need for effective stress management, enhanced trust and respect, and gave participants experience in being both leaders and followers.

Probably the scariest challenge came on the 35-ft. tower of ropes. Here, students donned crash helmets and safety ropes and maneuvered like circus trapeze and high-wire artists. These exercises were designed to foster individual achievement and not teambuilding, although shouts of encouragement from other students seemed appreciated. Many were encouraged to step out of their comfort zone and challenge themselves. High fives and hugs accompanied each finish. ■



MU Veterinary Guest House Project Is First Accepted Into National Hospital Organization

Barkley House, a proposed guesthouse at the University of Missouri College of Veterinary Medicine, was accepted as a Provisional Member of the National Association of Hospital Hospitality Houses. With this, Barkley House becomes the first "animal-related" house on their membership rolls.

Barkley House is designed to be a Ronald McDonald House-type facility for people when their pets undergo long-term medical care at the college's Veterinary Medical Teaching Hospital. The facility will provide low or no cost temporary lodging. Many times the cost of lodging, or time needed for travel to and from a distant medical facility, is a determining factor if an animal receives life-saving medical care.

The National Association of Hospital Hospitality Houses, Inc. (NAHHH) is a national, non-profit association of facilities that provide lodging and other supportive services to human medicine patients and their families when confronted with medical emergencies.

Nationally, more than 150 NAHHH member houses provide shelter for over a quarter of a million people each year. From the start, the NAHHH has grown steadily; successfully promoting the development of new houses, while lending assistance to members for the improvement of their operational, fund development and public awareness efforts. Most operate on budgets that would seem unbelievably small by corporate standards.

A Unique Concept

The Barkley House concept is unique in veterinary medicine, and, if built, would be the prototype for other veterinary medical hospitals. The building is envisioned as a three-story, Victorian-style house consisting of suites with kitchenettes, a family room, a resource library, laundry facilities, central dining area, porches, an exercise area for animals, and a secluded garden. The structure is designed to enhance interaction and support between clients of the veterinary teaching hospital and their seriously ill pets. Allowing pets to remain with their families may help speed their recovery and lessen anxiety during treatment for both patient and owner.

The house will also provide veterinary students with additional opportunities to enhance their client communication skills and directly monitor patients who might otherwise go home.

The timeline for the start of construction depends on an ongoing fund-raising effort. About $2.4 million in funds are needed to build, furnish, and maintain Barkley House. The facility will be funded entirely through private donations.

An Idea Is Born

The Barkley House project at the MU College of Veterinary Medicine was first envisioned by a veterinary oncologist, Dr. Carolyn Henry, who saw that there was no easy way for many of her clients to remain near the teaching hospital while their pets were undergoing lengthy cancer treatments.

Dr. Henry named the project after Barkley, a Great Pyrenees dog, who was driven weekly by Sally Truscheit from Kansas City to the Veterinary Medical Teaching Hospital for radiation therapy. When an injury prevented Sally from making the repeated trips, Dr. Henry came up with the idea of a guesthouse that could reduce some of the obstacles for pet owners whose animals are undergoing long-term treatments. Hence, the concept of Barkley House was born.

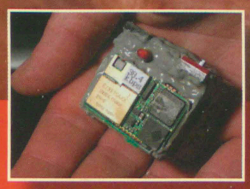
Contributions to Barkley House are tax-deductible. To donate to the project, please contact: Director of Development, Office of the Dean, MU College of Veterinary Medicine, W-203 Veterinary Medicine Building, Columbia, Missouri 65211. Phone: 573.882.5972 or 888.850.2357. Email: barkleyhouse@missouri.edu ■

From Tech to Pasture

MU Veterinarians Use Motion-Capture To Diagnose Horse Disease

Dr. Kevin Keegan watches his laptop computer as data streams in from sensors on the horse.

To be successful, the movement sensor on the horse's hoof has to be small and light so as not to interfere with the normal movement of the leg.



Each sensor must be small and durable.

Dr. Kevin Keegan mounts a transmitter on the horse's back.

Taking a page from the scripts of Hollywood directors, a University of Missouri equine veterinarian is using motion-capture technology to diagnose lameness and spinal ataxia, common and significant medical conditions in horses. Both can lead to loss of limb use or death of the animal, but this new technology might help veterinarians identify the specific problems early enough to seek a treatment.

"The problem with the current motion-capture technology is that you need a laboratory and the equipment is extremely expensive," said Dr. Kevin Keegan, associate professor of veterinary medicine and surgery. "Our new system allows a veterinarian to evaluate and diagnose a horse in the pasture and or in the barn."

Dr. Keegan, together with P. Frank Pai, a mechanical engineer at MU, and Yoshiharu Yonezawa at the Hiroshima Institute of Technology in Japan, developed a system that consists of four small motion sensors that are attached to the horse's head and legs. The sensors are so small and light that they do not affect the horse's movement. As the horse moves, the sensors record the movement and relay the data to a portable computer. Later, the data is analyzed and a diagnosis is made.

This technology is unique because diagnosing lameness or spinal ataxia, which is usually due to spinal cord disease, can be very difficult to do subjectively with the naked eye. However, the sensors can detect the small irregularities in the horse's movement and help a veterinarian make the proper diagnosis.

"It can be especially difficult to diagnose lameness if the problem is intermittent or if it switches sides or changes intensity," Dr. Keegan said. "If the motion-capture technology is attached to the horse, the evaluation is more objective, taking the guesswork out of the equation. This technology may also help veterinarians diagnose lameness or weakness problems in horses that escape the human eye."

Lameness is the most common medical condition affecting horses, typically resulting in $600 million to $1 billion in losses for the horse industry each year. Spinal ataxia, which can lead to death in the animal, can be caused by several diseases including infection of the spinal cord, malformation of the neck vertebrae, the herpes virus, and the West Nile virus. ■

Dr. Martin Katz

A Helping Paw

A Canine DNA Bank Provides Clues to Treating a Neurological Disease

Dogs are more than just human's best friend. At the University of Missouri, Tibetan Terriers are contributing to a canine DNA bank in an on-going research program studying the genetic basis of a neurological disease that affects both dogs and humans.

The disease is known as neuronal ceroid lipofuscinosis (NCL) in dogs, and Batten disease in humans.

NCL diseases are inherited neurological disorders that have no cure. Though rare, children of parents who are carriers each have a one in four chance of inheriting the terminal disease.

In order to better understand the pathology of the disease and develop therapies, Dr. Martin Katz, professor of ophthalmology with dual appointments in the School of Medicine and the College of Veterinary Medicine, is looking to the Tibetan Terriers for help.

"The purebred dog population provides an ideal model for genetic research," said Wayne Ferguson, president of the American Kennel Club Canine Health Foundation. "The dogs' pedigrees provide detailed multigenerational relationship information. The shorter lifespan of a dog allows researchers to compress studies that would take much longer with people."

Dr. Katz is searching for the genetic basis of the disease by studying the large pool of DNA provided by the dogs' owners.

The normal canine genome, which has been sequenced, is compared to the DNA of the affected and unaffected Tibetan Terriers to pinpoint the NCL mutation in this breed. Dr. Katz said in order for genetic mapping to be successful, information about the disease status of the dogs and their pedigrees must be accurate. Because of the excellent record-keeping by breed registries and close observations of their dogs by owners, registered purebred dogs are ideal subjects for genetic studies.

Using the "candidate gene" approach, Dr. Katz sequenced, or identified, the genes of affected Tibetan Terriers in specific areas thought to be comparable to those where human markers associated with the condition have been identified. Using this approach, he was able to eliminate mutations in known NCL genes as the cause of the Tibetan Terrier disease.

The next step is the identification of the NCL mutation in Tibetan Terriers. This requires that the mutant gene be located through a process called mapping or linkage analysis. This analysis involves detailed comparison of the DNA from a large number of affected dogs with the DNA of their parents and affected littermates.

"The organization of genes in a genome is like the organization of books in a library," Dr. Katz said. "Genes are arranged in a specific order on a number of different chromosomes, much like books are placed in specific orders on specific shelves in a library. Determining the precise location of a disease-causing mutation within the genome will identify the disease gene, just as going to a specific location on a specific shelf in a library will result in a particular book being located."

Once the NCL mutation in Tibetan Terriers has been identified, a simple test for the mutation can be performed on any dog using DNA extracted from a blood sample. This will enable breeders to screen dogs prior to breeding to prevent generating affected dogs in the future. Identification of the Tibetan Terrier NCL mutation also will make it possible to determine whether any humans with NCL have the mutations in the corresponding human gene.

According to Dr. Katz, human NCL often goes misdiagnosed because the disease is rare and early symptoms overlap those of other disorders. Eventually, affected children develop an array of symptoms that include blindness, seizures, cognitive decline, and loss of motor function. Often, it is not until these symptoms are well advanced that a correct diagnosis is made. ■

MRIs

, those devices used to create three-dimensional computer images of brains and other organs, are fairly common human medicine tools. They are rare in veterinary medicine. Only a handful of the machines are dedicated to animal health worldwide.

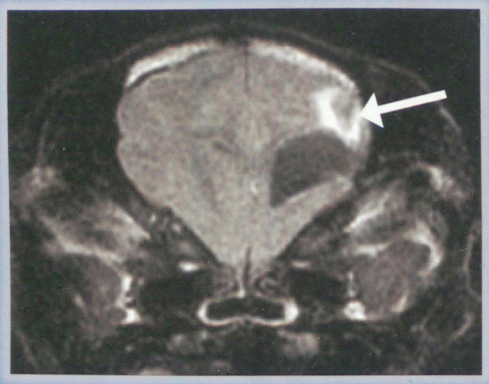
The Veterinary Medical Teaching Hospital at the University of Missouri College of Veterinary Medicine recently activated its MRI. The device will be used to help diagnose clinical neurologic, orthopedic, oncology, cardiology, emergency, and other clinical cases. The MRI will also be used in veterinary medical research and research from MU's other colleges.

Magnetic resonance imaging (MRI) is a noninvasive diagnostic test that uses a magnetic field and radio waves to create a computer image of the inside of an animal.

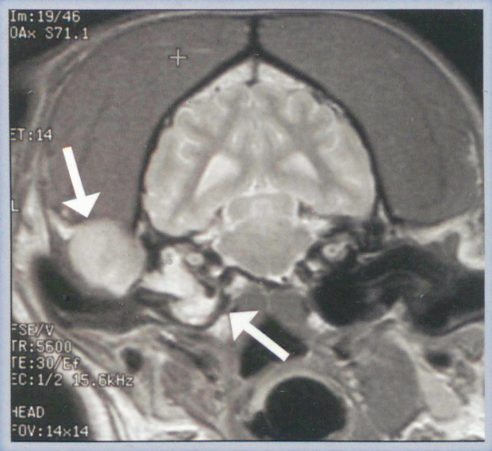
Different chemical compositions and tissue densities absorb and release the radio frequency energy at different rates, allowing each type of tissue to show up as a different brightness or color. Sophisticated computer algorithms render the data into a highly detailed three-dimensional computer image. By selecting radio frequencies with different pulse sequences, veterinarians can look for specific types of tissues, such as tumors.

MRI imaging is extremely sensitive—it is the only effective way to differentiate between the gray and white matter in the brain. It is also the tool of choice when looking for mass lesions and inflammation of tissues.

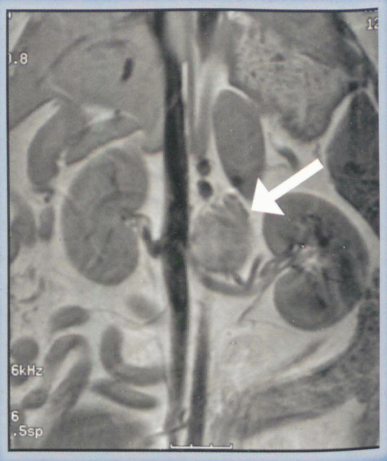
MRIs generally can better identify conditions such as cancer and orthopedic injuries without invasive exploratory surgery that can sometimes otherwise be required. Some areas of the body, for example, the brain and spinal cord, are difficult or impossible to accurately image using anything but an MRI.



In this transverse FLAIR image (fluid signal is suppressed) edema (white ring) shows near an area of fluid (dark region) in a case of chronic active Pug encephalitis. This would not be visible on a CT scan.

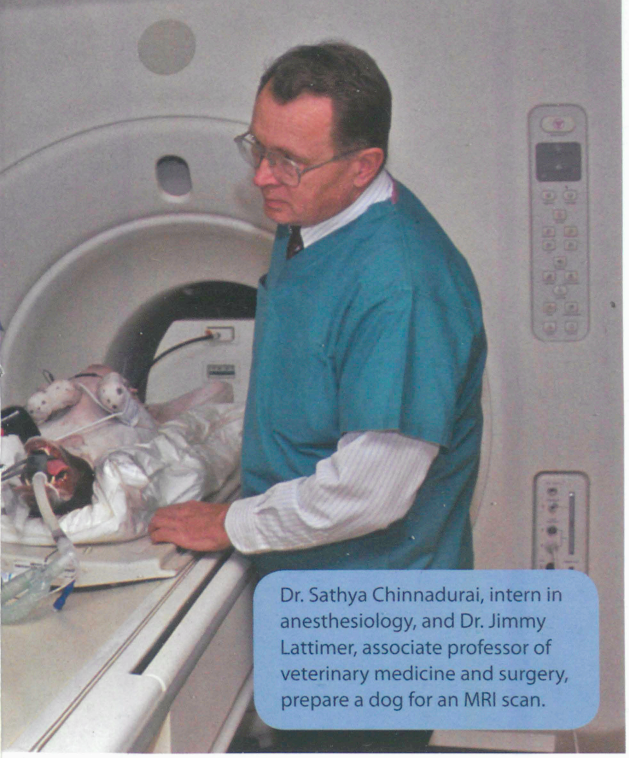


This proton density transverse image shows a left-sided dermoid cyst with inflammation invading the ear canal and fluid in the tympanic bulla in a dog with repeated surgeries for a draining tract.



T1 dorsal image of a large left adrenal tumor.

Modarqes



Dr. Sathya Chinnadurai, intern in anesthesiology, and Dr. Jimmy Lattimer, associate professor of veterinary medicine and surgery, prepare a dog for an MRI scan.

MRI technology is useful for diagnosis of neurological diseases such as tumors, stroke, and intervertebral disc disease. The MRI is also valuable for diagnosing musculoskeletal diseases, imaging the cardiovascular system, and for mapping and staging tumors prior to surgery.

Dr. Lisa Britt, clinical assistant professor at the MU Veterinary Medical Teaching Hospital specializing in radiology, said that the machine will enhance the ability to see some lesions not usually visible on CT scans.

"We will be able to quickly differentiate between nervous system edema, necrosis, and hemorrhage," she said. "In many cases this would otherwise require a myelogram and a CT scan. The MRI is much less invasive, particularly with spinal lesions. Since the subarachnoid space is not accessed, there are no worries about causing meningitis. In addition, the MRI allows excellent soft tissue detail when evaluating joints and vascular studies when evaluating abnormalities such as portosystemic shunts."

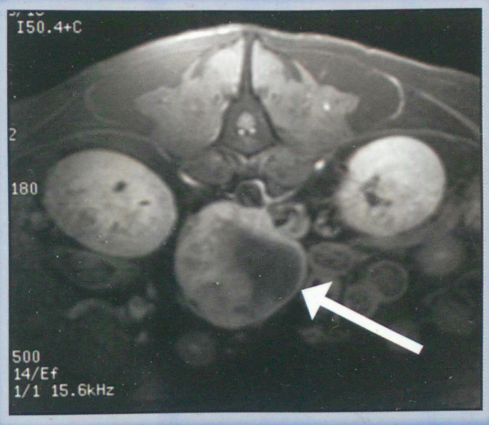
The MU MRI will have a research component, also. One clinician is already planning to use the MRI to investigate better ways to diagnose spinal lesions. Given the collaborative research projects that routinely occur at the Veterinary Medical Teaching Hospital, the MU MRI will be scheduled by other researchers in the MU health sciences.

The MRI will play a role in the education of doctors of veterinary medicine and post-graduate DVMs. "The improved visibility of lesions makes the MR image superior for demonstrating abnormalities to students, interns, and residents," Dr. Britt said. "Since most of our residents go on to practice in academia or a specialty referral practice, they will encounter MR scans in the future and this will allow them to be familiar with the modality."

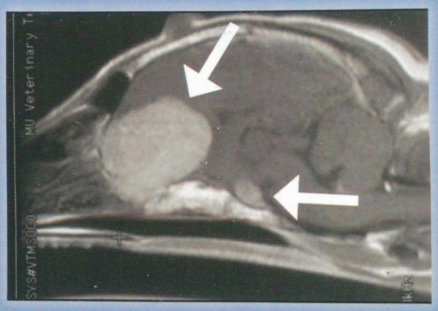
As a diagnostic tool, the MRI is a very safe device as it emits no radiation. It's generally faster than a CT scan.

MRIs have other advantages over CT scans. MRIs can distinguish between soft tissue densities, and can compensate for distortion caused when metal objects, such as steel plates used in orthopedic repair, are in the field of the scan. ■

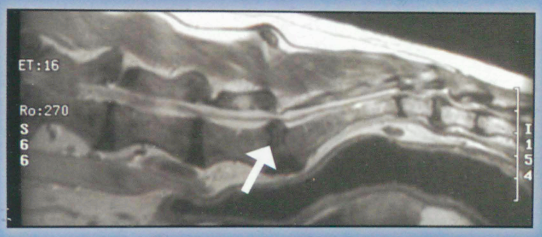
Coronal T1 post contrast fat suppressed image of a goat with right spinal lymphoma that is displacing the spinal cord to the left.



T1 post contrast fat suppressed image showing a large left adrenal tumor in a transverse plane.



T1 post contrast sagittal image of a rostral brain tumor. The pituitary gland is also normally enhanced (white) after contrast.



Sagittal T2 image of a lumbosacral disc herniation and multiple other degenerative (dark) lumbar discs.

To Better Diagnose Animal Illnesses MU's Veterinary College Activates a MRI

"Hey, Pop – What Makes a Dog *Red Blooded?*"

Chow Time

Kansas and Missouri Have A Savory Place in the History of Pet Food

If pets could vote on a culinary nirvana, they'd wag their tails in favor of Missouri and Kansas.

Why? The two states are home to the major pet food producers, capitalizing on the Midwest's cornucopia of grains and livestock vital to pet chow products. In fact, the founder of Ralston Purina popularized pet food in Missouri.

The economic effect of the pet industry in Kansas and Missouri is far-reaching, too, employing thousands of people and bringing in billions of dollars.

No one has a definitive figure on how much pet products add to the Midwest's coffers, but in Missouri the pet-food-producing industry earns about a third of the $10 billion-a-year national pet food business sales. Best estimates rank Missouri as the number two pet-chow production state behind California.

Kansas is a strong third with about 300 companies that make pet food, according to the Kansas Department of Agriculture.

Perhaps it's only natural that as the heart of the grain belt the Midwest is positioned to profit by supplying goodies to the more than 55 million U.S. households with pets.

How big is the annual production of pet food? Imagine a mountain of pet food weighing 260,704 tons—more than a billion doggy dinners. That's how much pet food was produced last year just in Missouri, according to the Missouri Department of Agriculture.

Table Scraps to Science Diet

The first commercial dog food was a biscuit introduced in England about 1860. James Spratt, an electrician from Ohio, was in London trying to sell lightning rods. He saw dogs being fed leftover ship's biscuits and decided that he could do better with a preparation of wheat, vegetables, beetroot, and meat. While the formulation was based more on guesswork than science, his product's sales thrived among English country gentlemen feeding their sporting dogs.

Several US firms tried to emulate the success with varying degrees of success. Canned horsemeat as a dog food was introduced just after World War I. In the 1930s, canned cat food and dry-meal dog food were introduced. The 1950s saw the introduction of dry expanded type feeds, with the soaring sixties seeing an explosion of varieties.

William Danforth
Founder of Purina

The first pet food maker in the Midwest was Purina, founded by Missourian William Danforth in the late 1800s as a feed grains store. Just out of Washington University, Mr. Danforth was seeking to launch his career in some St. Louis business. Since he knew horses, the main means of transport of the day, needed to eat, he selected a career in the feed business.

Feed stores dotted every corner the way gas stations do today. Other than hay, only two kinds of horse and mule feed were known, corn and oats. Oats were costly, and every year thousands of horses died from colic caused by bad corn. The young Mr. Danforth's market niche was to offer a healthy feed blend.

"Cheaper than oats and safer than corn" was the slogan of the new product, which was mixed with shovels on the floor of a feed store's back room. The feed was then put into 175-lb. sacks, which were sewn shut by hand.

Beginning in 1926, he marketed a hunt-

Purina's new checkered look

ing dog feed, packaging it in the same familiar red-and-white checkered bags used for his livestock products. His chow became an industry standard, and the company even supplied the sled dog food for Admiral Richard Byrd's 1933 Antarctic expedition.

Things really got going in 1950 when Purina decided to develop a nutritious and palatable dog food to be sold through retail grocery stores.

After five years' work, Purina researchers hit upon a formula that dogs loved. In tests of 300 dogs of 30 different breeds, the company's Dog Chow was preferred five to one. It was also easy to use and store.

After successful test marketing, Dog Chow entered national distribution in April 1957. Advertising stressed the food's palatability with an "Eager Eater" theme. By the end of that year, Purina had captured 14.8 percent of the market, and in August 1958 Dog Chow became the nation's leading dry dog food, a position it has held ever since.


Purina's "Eager Eater"

Purina isn't the only pet food producer in Missouri. In the southwestern part of the state, Joplin hosts a factory for Doane Products Inc., one of the largest private-label pet food makers in the nation, supplying chains like Wal-Mart. The Pet Food Institute estimates that Doane sold more than $600 million in pet food last year. Black Gold, a premium professional dog food, is made in Vienna, Mo. Meta, Mo. is home to Diamond Pet Foods that has been producing products since 1970.


Mark Morris
inventor of Hill's prescription diet

Across the state line in Kansas, Topeka is the world headquarters of Hill's Pet Nutrition Inc., the leading premium pet food company in the world. Hill's products are available from Japan to South America.

A Company Inspired By A Guide Dog

Hill's was started more than 40 years ago by Dr. Mark Morris Sr., a veterinarian, who was asked to formulate a dog food for a seeing-eye dog with kidney problems.

It was no accident that Dr. Morris got the task. He believed certain diseases in pets could be managed through carefully formulated nutrition.

The chance to prove his theory came when a young blind man, Morris Frank, asked Dr. Morris if anything could be done to save his guide dog, Buddy, who was suffering from kidney failure. The result of Dr. Morris' efforts was the nutritional formulation that would become the first Hill's Prescription Diet product, and the world's first pet food designed to help dogs with kidney disease. Soon after, Hill's Pet Nutrition was founded and the field of clinical nutrition was a new industry.

Today, the company can produce 200,000 pounds of dry food and one million cans of food each day, helping the firm sell almost a billion dollars in premium pet food the world over each year.

Like Missouri, the Wheat State has its smaller pet food producers, too. Until it was purchased by an Atchison, Kan. company, Thompson's Pet Pasta Products of Kansas City, Kan. sold more than $10 million annually in doggie spaghetti. The founder, Richard Thompson, discovered on a trip to Europe that residents there feed their dogs pasta. He brought the idea back to the United States and refined it for the mass market.


The Old Diamond Plant


The New Diamond Plant

Pasta for dogs was a joke to many in the seventies, but producers of gourmet pet food are laughing all the way to the bank now as that part of the market is one of the fastest growing. "Exclusive" pet food products during the last decade grew more than 40 percent while the population of pets grew only two percent, according to the trade association Pet Food Institute. Doggie vending machines at New York parks is a new and growing business enterprise.

Such growth is not surprising considering that a majority of US households have at least one pet cat or dog, and that these animals are now considered part of the family. In 2004, there were 60 million pet dogs and 75 million pet cats.

And that ain't table scraps. ■

Education by Immersion

Students Get Early Clinical Experience While Helping the Poorest Americans

A gymnasium floor (right) makes for a temporary veterinary clinic. Sleeping accommodations (below right) shared the same space. Four of the MU students (below) who helped in Arizona: Sonja Weissbach, Laura Kee, Meredith Hall, and Amy Crowder.

In spite of cheery newspaper feature stories about American Indians making big bucks on casino gambling, Native Americans are the poorest people in the United States.

The country's 2.1 million Indians, about 400,000 of whom live on reservations, have the highest rates of poverty, unemployment, and disease of any ethnic group in America.

For many, food and medicine rank far higher in daily priorities than veterinary care. American Indians love their pets as much as anyone, but cruel economics make for tough choices.

Providing aid for these pets is the Rural Area Veterinary Services (RAVS), operated by the Humane Society of the United States. RAVS is a volunteer program that delivers veterinary medical services and education to rural communities in US western states and Appalachia where local veterinary care is not available.

RAVS clinics provide basic health care services for dogs and cats including spay/neuter surgery, vaccination programs, parasite treatment and control, various soft tissue surgeries, and emergency medical care. Many of the companion animals would receive no medical care if it were not for the volunteers.

Because RAVS serves needs where proper infrastructure is rare, volunteers work long hours with staggering caseloads in less than ideal conditions. It is a great opportunity for young and enthusiastic veterinary medical students to get an early immersion in their profession.

During Spring Break 2005, several University of Missouri veterinary medical students traveled to Arizona and Nevada to help RAVS provide healthcare to the Apache, Navajo, and Zuni reservations.

These first- and second-year MU veterinary medical students spent a week volunteering at a free veterinary clinic, working under the supervision of experienced veterinarians and technicians. Spaying and neutering was the team's number one priority, but they also assisted in a full-scale clinic and examined animals, assisted with surgeries, monitored anesthesia, presented educational preventative medicine programs, provided routine exams, and assisted in emergency treatments.

Participating students from the Class 2007 were Anna Bruening, Amy Crowder, Meredith Hall, Laura Kee, and Sonja Weissbach. Class 2008 students who volunteered were Amanda Burling, Sarah Frei, and Martha Rasch. Other students participated in weekend RAVS trips in the Appalachians.

An Education Outside the Classroom

Where clinical work in the MU Veterinary Medical Teaching Hospital is measured in pace with strict protocols and procedures, the student volunteers faced a situation in the Arizona high desert more akin to a MASH unit.

The pace was fast. Volunteers and staff typically perform up to 300 vaccinations and 30-60 surgeries each day. The MU team got their share, performing almost 400 surgeries and thousands of vaccinations and other treatments.

The concept of "don't touch anything" is impractical under these circumstances. If a student encountered an emergency or something unexpected, the situation was often left to be handled by the student under the direction of the senior staff.

"It was a tremendous boost in my experience level," Ms. Kee said. "I did many things there for the first time such as interacting with clients, vaccinating and deworming pets, premeding patients, placing IV catheters, and conducting intubations and anesthesia monitoring. Of course that was also my first time to spay or neuter anything!

"I was surprised how much experience we students actually got," she continued. "Under supervision, we got to do everything. It was also surprising how well it all is run, everyone cooperates to get the jobs done."

A typical RAVS expedition will include 12-25 veterinary student volunteers and three to five veterinarians and technicians who conduct one or two clinics a day. Trips last anywhere from two days to three weeks.

In addition to practical knowledge in surgery, animal handling, physical exams, and monitoring anesthesia, students also learned invaluable skills in communication and education. "The most important lesson for me was to avoid judging owners without understanding their circumstances or appreciating the depth of their compassion," said Ms. Burling.

Students also helped with other procedures for animals with exceptional needs. "It was inspiring to see pets who had been living with debilitating, long term conditions finally receive treatment they would never otherwise have gotten," Ms. Burling said. "In one specific case, a cat had an injured limb that could not heal properly. The RAVS vets were able to amputate the leg, and the cat did great!"

In some communities, RAVS provides reproductive exams, castration, vaccination, and parasite control for horses and livestock.

Roughing It

Conditions for the volunteers can be primitive. Most areas have no hotels, so bedtime means a sleeping bag in a building if you are lucky, a sleeping bag under the stars if you are not. Typical student fare, fast food, wasn't available, either. Dinner and lunch was whatever packaged food was brought in or cooked on site. Often, the students ended their days realizing that they had been too busy to eat lunch.

"I remember one night I was trying to get to sleep in my sleeping bag but I was freezing," Ms. Kee noted. "I had even stuck some of the patient warmers in my sleeping bag to stay warm, but they weren't working. Then I heard a dog crying. She had been spayed late in the day so the owners were picking her up tomorrow. It reminded me that things could be worse."

Generally, clinics are held in a public building. The MU volunteers worked on the floor of a basketball court.

Every clinic also includes an education component. Presentations for children are provided on humane pet care, dog bite prevention, and the role of veterinary medicine. Programs for adults generally focus on humane animal care, disease prevention, and the benefits of spay/neuter. In some remote communities, RAVS veterinarians work with local residents to help them learn to provide basic health care for animals in their own communities.

Last year, RAVS provided treatment to nearly 20,000 animals at a value of more than $1 million, all at no cost to the communities.

Ms. Burling was impressed by the commitment that the host communities demonstrated for the pets. "Even in impoverished areas with limited resources and minimal access to health care for both humans and animals, everyone from the local humane society volunteers to the individual owners were extremely dedicated to doing the best they could for their pets. I was inspired by their compassion and hard work." ■

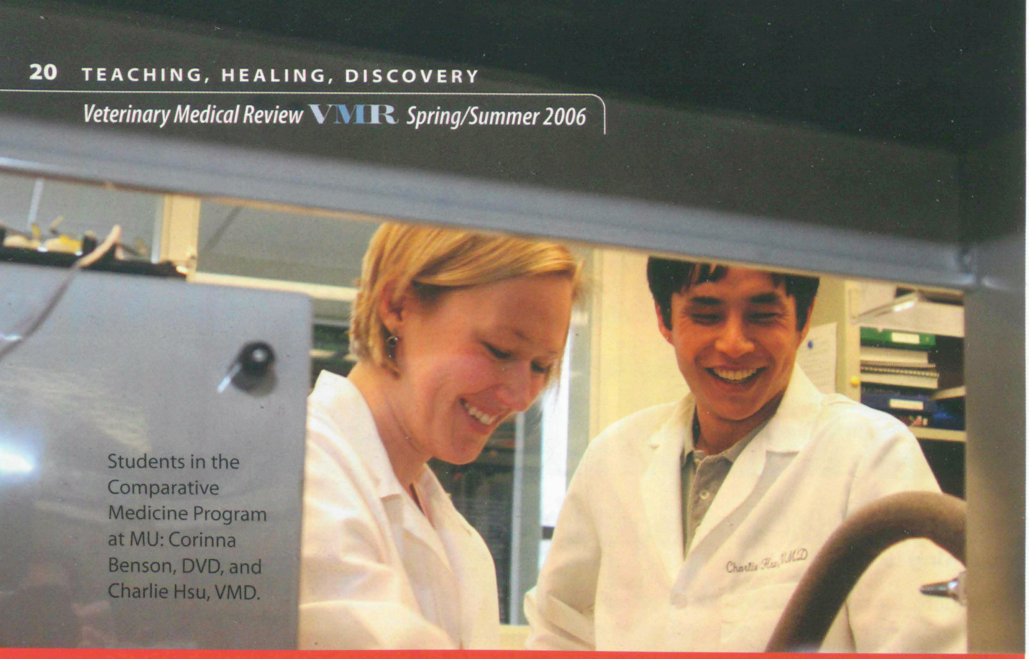
An Almost Unlimited Need For Veterinary Care

The need for this kind of volunteer work is overwhelming. Homeless dogs are iconic on reservations and they are everywhere. You can't go to a gas station or store without almost stepping on several dogs using the parking lot for an afternoon nap. There are friendly dog packs in the streets–preventing normal traffic. There were so many dogs that several checked themselves into our clinic. We'd just find them waiting for us when we opened the doors at 6 am.

Almost all the dogs we saw were malnourished, riddled with parasites, and slightly feral. Mangy dogs go so long without proper care their skin looks like elephant skin and would reek of gasoline from owner's self-treating. The White Mountain Apache Reservation had an epidemic of Rocky Mountain Spotted Fever while we were there. Ehrlichiosis was suspected, too. Many of our patients had coagapathoies and bleeding and hypotension were constant challenges during surgeries. However we did about 300 surgeries throughout the week and only lost one patient who was already very ill.

That being said, I found that their owners cared for and loved their pets as much or more than wealthy clients. The truth is that the dogs live no worse than their owners. Dog food was a luxury they couldn't afford. We saw tiny shacks that most people would use to store their garden tools but on the Reservation these were homes. A lot of people didn't have electricity. To suggest regular veterinary care for pets was like suggesting they buy their own limousine–it's just not going to happen. If it wasn't for RAVS their pet population would be even more explosive.

–Anna Bruening, Class of 2007



Students in the Comparative Medicine Program at MU: Corinna Benson, DVD, and Charlie Hsu, VMD.

The MU Comparative Medicine Program Has Addressed the Critical Need for Veterinarians in Comparative Medicine Research and Laboratory Animal Medicine for the Last Three Decades

Which University of Missouri graduate training program rivals those of such research heavyweight institutions as Johns Hopkins, MIT, the University of Michigan, Cornell, and the University of Washington? If you guessed the MU Comparative Medicine Program (MU-CMP), you are among an increasing number of people who have become aware that this post-DVM/VMD training program has quietly become one of the largest and most prestigious in the country.

The MU-CMP has been in existence since 1968 and was one of the first to receive grants from the National Institutes of Health, funding that has now been in place for almost 30 years. This program couples residency training in laboratory animal medicine, laboratory animal pathology, and advanced graduate research training in comparative medicine.

To date, there are more than 80 graduates of the MU-CMP who hold prominent positions in academia, industry, and government.

A Growing Need

Now more than ever, there is a dire demand for veterinarians in biomedical research. The National Research Council (NRC) recently published two reports detailing this need. According to "National Need and Priorities for Veterinarians in Biomedical Research," there are serious deficiencies specifically for laboratory animal veterinarians, veterinary pathologists, and veterinarians as principal research investigators. This need has already outpaced supply and future needs may create an even greater shortage. For example, the NRC report noted that from 1997 through 2002 there was an increase of less than three percent in active diplomates in the American College of Laboratory Animal Medicine (ACLAM) at a time when the numbers of animals used in research is expected to increase 10-20 percent annually over the decade 2000-2010.

This explosion in animal numbers used in research has occurred in part due to dramatic increases in the development and use of genetically engineered animals, particularly rodents and swine, in biomedical research. These animals have proved to be tremendous tools in disease investigation. Parallel to this explosion in animal genomics is expanding animal use in many other research areas, such as emerging infectious disease (i.e. SARS) and biodefense. These new animal models not only require specialized veterinary care, but they also are in need of characterization (phenotyping) and basic research—tasks ideally suited for veterinarians.

Consequently, pharmaceutical and biotech companies, academic institutions, and government agencies are aggressively competing for veterinarians with post-DVM/VMD training in laboratory animal medicine, laboratory animal pathology, comparative medicine research, and combinations of the three. According to Dr. Sherri Motzel, an alumnus of the MU-CMP and Senior Director of Laboratory Animal Resources for the pharmaceutical giant, Merck and Co., "Veterinarians with a comparative medicine background and research experience are ideally suited for the collaborative research environment and multidisciplinary approach critical to achieving breakthrough scientific advances to answer unmet medical needs."

Homeland security is even in the hunt, as veterinarians bring invaluable perspective and tools to the identification and handling of infectious disease threats to national security.

Responding to the Need

Laboratory animal medicine is a specialized practice field recognized by the American Veterinary Medical Association. Veterinarians in this specialty advance the humane care and responsible use of laboratory animals. Comparative medicine research employs animal models in a multitude of biomedical studies. Veterinarians, with their broad knowledge of numerous animal species and their whole animal perspective, are uniquely suited for this type of research. These areas are ideal career paths for individuals who wish to couple their veterinary training with research interests, two naturally synergistic fields.

Starting in the sixties, the MU-CMP was one of the pioneer training programs in laboratory animal medicine. In the mid-eighties, the program began to expand its research training component with the goal of producing MS- or PhD-degreed scientists capable of conducting independent and collaborative research. Today, the program is very well-recognized for its training in comparative medicine research and laboratory animal medicine.

Trainees of the MU-CMP generally com-

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bine one year of residency training in clinical, administrative, and diagnostic laboratory animal medicine with two or more years of research training. In the residency year of training, two rotations are performed: clinical medicine and animal resource management in the Office of Animal Resources (OAR) and diagnostic and research-oriented laboratory animal pathology in the Research Animal Diagnostic Laboratory (RADIL).

OAR's primary responsibilities are to provide veterinary medical care to all research animals, to oversee and provide for animal well-being, and to reduce experimental variables in animal-based research. The overall objective of the OAR rotation is to familiarize trainees with the application of clinical veterinary medicine in animals used in research, testing and teaching, and to develop the management and administrative skills necessary for directing animal resources (facilities and programs). At the OAR, trainees are active participants in surgeries, veterinary care, health monitoring programs, model development, investigator consultation, facility design, animal welfare regulation compliance, and protocol review for the MU Animal Care and Use Committee. They work with a variety of animal species ranging from rodents to swine to more exotic species, such as opossums.

RADIL serves the community of individuals that care for and use animals in biomedical research by providing research animal health monitoring and diagnostic services, tumor and cell-line testing, mutant rodent phenotyping, cryopreservation and rederivation services, and genetic testing services. In addition, RADIL conducts basic and applied research in the areas of laboratory animal infectious diseases, diagnostics, animal model development, cryobiology, and mutant mouse and rat biology. During the RADIL rotation, trainees are exposed to a broad range of cases from many species of animals ranging from mice to genetically engineered rodents and primates. Submissions include health monitoring, biopsies, problem-solving cases, genetically engineered rodent phenotyping, and research projects that require histologic interpretation of tissues.

RADIL laboratories also provide a window to the many contemporary health and infectious disease problems and questions

Bettina Weber, DVM.

that face the laboratory animal community. Pursuit of these questions has often led to development of a number of comparative medicine research projects.

Trainees are also involved in a number of other activities including teaching and training, presentations at national/international meetings, and manuscript and grant preparation.

What sort of research areas can trainees get into? Laboratories of more than 50 mentors in 17 MU departments that span the campus are ready and waiting for an MU-CMP trainee. Mentor expertise ranges from infectious diseases to biomedical engineering to cancer to exercise physiology. Recent and current trainee projects include "Phenotyping of cloned transgenic and knockout swine," "Micro-imaging in mouse models of metastasis," "Role of ion transporters in a mouse model of cystic fibrosis intestinal disease," "Isolation, characterization, and diagnosis of murine norovirus infections," "Mechanisms of infertility in endometriosis using the rat as a model," "Differential gene expression in swine oocytes," and "Fundamental cryobiology of embryonic stem cells." Such a range of expertise and projects makes the MU-CMP program one of the most interdisciplinary at any university.

The Attraction?

In addition to being one of the first training programs, the MU-CMP is recognized for a number of unique strengths. It is the largest comparative medicine training program in the country with 14 current trainees. MU is also one of only a few campuses in the US that have schools of veterinary medicine, medicine, engineering, and agriculture on one campus, along with strong programs in basic biological and physical sciences. Trainees have access to a multi/interdisciplinary faculty and collaborative efforts require just a short stroll across campus.

The facilities at MU are also unparalleled when it comes to comparative medicine research. State-of-the-art research facilities, the one-of-a-kind-in-academia RADIL, a highly interactive OAR, and genetically engineered mouse, rat and swine resource and research centers provide an outstanding training environment. The latter centers are funded by the NIH and serve as repositories for cryopreservation, production and characterization (phenotyping) of genetically engineered rodents and swine to insure the continued availability of these scientifically valuable animals to the biomedical research community. Additionally, the centers are actively engaged in many exciting comparative medicine research projects including development of improved methods for the production of transgenic and knockout animals.

Lastly, the training program is an ACLAM-certified program and MU-CMP trainees have been very successful in achieving ACLAM board certification.

According to Charlie Hsu, VMD, University of Pennsylvania, 2002, and current MU-CMP PhD candidate, "With its great reputation, strong research emphasis, excellent residency training, and large number of trainees and supportive faculty to work with, this program really helps us build a strong foundation and makes you feel proud to be a MU-CMP graduate when you're done."

The MU-CMP has quietly become one of the largest and most respected comparative medicine training programs in the country and its mission of training veterinarians for careers in biomedical research has never been more vital. ■

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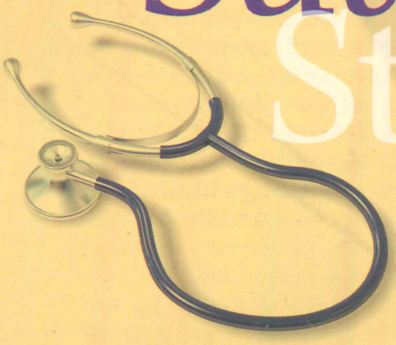
For more information about the MUCMP, visit http://www.radil.missouri.edu/info/cmp/ or contact Craig Franklin, DVM, PhD, associate professor, Research Animal Diagnostic Laboratory, Department of Veterinary Pathobiology; (573) 882-6623; franklinc@missouri.edu.

Sutures & Stethoscopes & Bicycles



MU Veterinarians Find a Fast Way To Promote Health

Veterinarians use tools like scalpels, sutures, and medications to help clients and patients. Sometimes they use bicycles.

Team Zubrin is a recently established group of University of Missouri College of Veterinary Medicine faculty who use their two-wheeling skills to participate in regional and national bicycling events. Individual and corporate sponsors support the team whose proceeds go to a variety of worthwhile health-related causes.

The team was formed by Dr. Derek Fox, who serves as an assistant professor of small animal surgery at the University of Missouri College of Veterinary Medicine Teaching Hospital. He is a diplomate of the American College of Veterinary Surgeons and associate director of MU's Comparative Orthopaedic Laboratory. His clinical emphasis is orthopedic surgery.

Members are veterinary oncologist Dr. Jeff Bryan, radiologist Dr. David Kunz, orthopedic surgeon Dr. James "Jimi" Cook, and Dr. Nathan Klocke, former MU veterinary medicine intern and now a Kansas City small animal surgeon.

Riding for Many Causes

Team Zubrin raises money for a variety of afflictions including multiple sclerosis and diabetes research. Dr. Bryan rides to bring awareness to the silent and deadly problem of aortic root aneurysms. He was diagnosed with this cardiac malformation before it caused him any problems. He, nonetheless, underwent a successful open heart surgery to replace a four-inch section of his aorta last winter, and now rides over 100 miles each week, commuting to work by bicycle daily.

"Our goal is to ride in several upcoming 'century' bicycling events," Dr. Fox said. "These events are called 'centuries' because they each are 100 miles or more in length. To help defray the costs of registration and team uniforms, Schering-Plough Animal Health has generously sponsored us, and we proudly wear the logo for their small animal pain-reliever, Zubrin. The individuals from Schering Plough that have made this happen are Cheri Carlson and Dr. Gerryll Hall."

Another non-financial, but philosophical sponsor of the team is the International Foundation for Animal Welfare — a non-profit organization committed to the improvement of the welfare of wild and domestic animals throughout the world by reducing commercial exploitation of animals, protecting wildlife habitats, and assisting animals in distress.

The bicycling events the team participates in are not races. There is no first, second, or third place. The events' purpose is just about the ability to ride that kind of distance and

be able to finish. Even so, the team trains hard to be in the kind of shape in which they can finish these events in a respectable time. It is not unlike runners running in training for organized marathons like the Boston Marathon. In preparation for these events, the Team Zubrin cycling group trains by riding between 100–150 miles weekly, mostly around the MU campus and Columbia area.

"When word caught on around the college that several of us had formed a team to ride in these events, several other faculty asked if they could purchase our jerseys to identify themselves as MU-CVM individuals," Dr. Fox said "We are happy to join with these riders as the University of Missouri-Columbia's College of Veterinary Medicine group."

Inaugural Ride: Texas in the Summer

Team Zubrin's first event was the 2005 Hotter Than Hell 100 in Wichita Falls, Texas.

The Hotter Than Hell 100 is well named, taking the riders through hilly and windy mid-Texas in August. Nonetheless, 9,000 participants entered, consuming 15,000 gallons of hydration fluid during the ride.

"Hotter Than Hell 100 is unique in that it represents one of the largest century event rides in the country," Dr. Fox commented. "So the opportunity to represent our university, college, profession, and sponsors among so many other cycling enthusiasts was very exciting."

The team also participated in the MS150 in Columbia, and the Tour of the Ozarks in Rolla.

The Columbia event saw participation by more than 2,500 riders, including 174 teams, who completed the 150 hilly miles throughout mid-Missouri. The riders raised a total of $1.65 million from individuals who pledged money per mile ridden, as well as corporate sponsorships.

"Each of us rides specialized road bikes, intended for fast, long distance riding," said Dr. Fox. One bike is made of exotic carbon fiber, another from aluminum, and one from lightweight steel — materials not unlike those used in some of the medical instruments used by the team in their more traditional way of helping animals. ■

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OF THE MU COLLEGE OF VETERINARY MEDICINE

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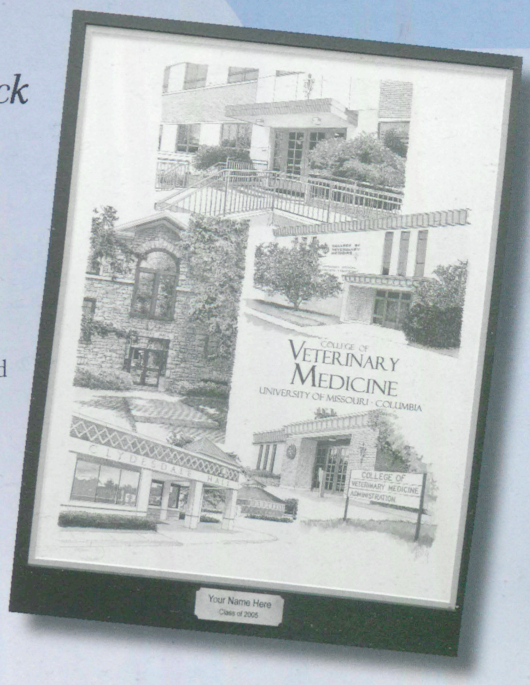

Available exclusively to University of Missouri College of Veterinary Medicine alumni and friends, this limited edition fine art print, drawn by John Stoekley, is hand signed and numbered. Only 500 copies of this print will be lithographed.

Created by special commission in pen and ink, this rendering depicts the major buildings of the College since its founding. Each print comes with the artist's certificate of authenticity as well as his biography.

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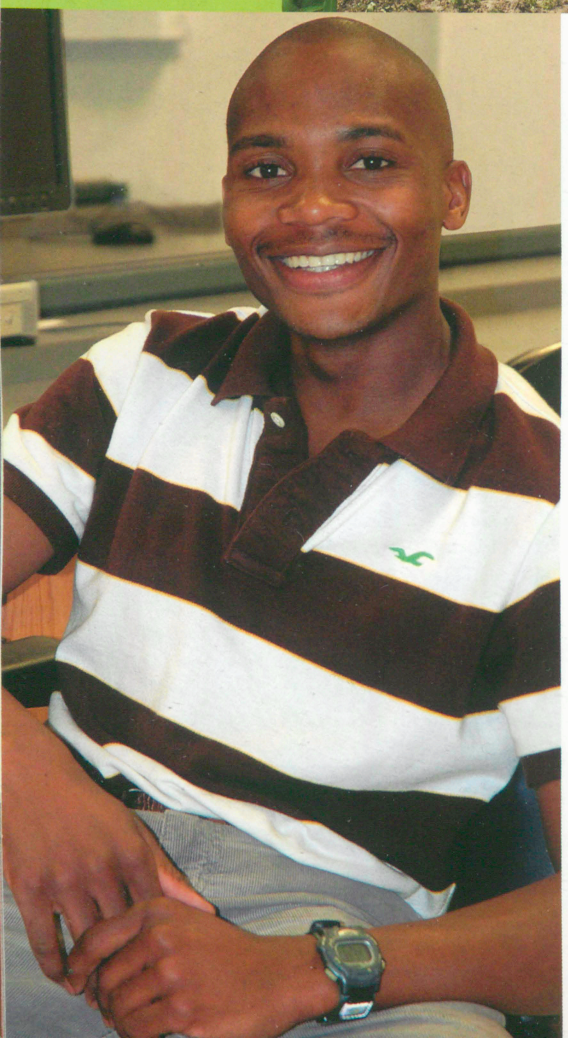
Munashe's Journey

To Achieve His Dream of Being a Veterinarian, Munashe Chigerwe Had to Overcome Civil and Economic Problems Unheard of in America



Dr. Chigerwe, third from left (above), poses with his family on their farm. Below right is the river that flows through the property. Below left is the way the family prepares the soil for planting.

Every veterinarian has a story about the rough road to the DVM degree. While many have had to wait tables, work in kennels, or drive old clunkers, few have faced riots at school, wars, and disease outbreaks on the way to becoming a veterinarian.

Dr. Munashe Chigerwe, a resident in the University of Missouri Food Animal Program, achieved his dream of becoming a veterinarian after traversing a gauntlet of economic and civil problems in his native African country of Zimbabwe. Growing up on a subsistence farm in the middle of the country, he bathed in a river with crocodiles, ran barefoot seven miles to school, and protected his family's small herds against leopard and hyena attack.

Challenges persisted even in veterinary medical school as riots triggered by an unpopular war shut the school down for a year. After graduation, he was dead broke in a country with an inflation rate of almost 500 percent. Yet, a lucky break helped to achieve his dream to work as a veterinarian at the University of Missouri's Veterinary Medical Teaching Hospital.

Disease and Economic Problems

The Republic of Zimbabwe is slightly larger than Montana and located in southern Africa, between South Africa and Zambia. The country has a central dry savanna surrounded by thick forests and is plagued by recurring droughts.

The country's 13 million population is unusually young with a median age of less than 20. That's because of a high infant mortality rate due to food or waterborne diseases such as hepatitis A, typhoid, malaria, and schistosomiasis. Almost a third of the population is infected with AIDS. According to US government estimates, Zimbabwe's average life expectancy is 39.2 years.

The government of Zimbabwe faces a wide variety of difficult economic problems as it struggles with an unsustainable fiscal deficit, an overvalued exchange rate, soaring inflation, and bare shelves. Its 1998–2002 involvement in the war in the Congo, for example, drained hundreds of millions of dollars from the economy. Badly needed support from the International Monetary Fund has been suspended because of the country's failure to meet budgetary goals. Inflation rose from an annual rate of 32 percent in 1998 to 133 percent at the end of 2004 and 500 percent in 2005, while the

exchange rate fell from 24 Zimbabwean dollars per US dollar to 15,200 in the same time period. The government's land reform program, characterized by chaos and violence, has badly damaged the commercial farming sector, the traditional source of exports and foreign exchange and the provider of 400,000 jobs.

Neighboring Botswana has built electric fences and South Africa has placed military along the border to stem the flow of thousands of Zimbabweans fleeing to find work and escape political persecution. Zambia has stopped a bridge project over the Zambezi River, hoping to keep hungry refugees from overpowering that country's economy.

Morning Chores and Running Without Shoes

Dr. Chigerwe was born in 1977 in the small town of Chiredzi, but didn't live there long as his family moved to a 100-acre cattle and crop farm in the center of the country. He has seven siblings, including a twin sister.

The farm could do little but produce simple meals that could be very meager in the dry season. Still, his mom and dad loved animals, Dr. Chigerwe said, with pigeons, rabbits, cats, dogs, and donkeys sharing what the farm produced. The family had no machines, so cattle were used to prepare the land for crops and donkeys for fetching water. The closest electricity was 60 miles away, so lighting and heating were by candles and kerosene lamps. To take a bath, the family used a nearby river populated with crocodiles. Occasionally, the family would lose a cow to the reptiles, and a dog was almost consumed by a water python.

Dr. Chigerwe's parents knew their kids' future depended on education, so scarse finances were devoted to enrolling them in a school in Chivhu, seven miles away. To get his chores done in time, Dr. Chigerwe woke up at 5 am, worked until 7 am, and then walked barefoot to the school (his one pair of shoes were reserved for church attendance on Sunday). To be there on time, he had to run half the distance.

After school more chores, like herding 40 goats to and from their grazing pastures, kept him busy until dinner. Each animal was a substantial part of the family's economic wealth, and he had to be on guard against the hyenas and leopards that prowled the property.

Faithfully watching over the animals did two things—it allowed the family some modest economic stability when a drought could wipe out a year's labors to grow crops, and imbued Dr. Chigerwe with a love for farm creatures.

After primary school, Dr. Chigerwe attended a Catholic Mission, something most families could not afford. Then it was high school in the country's fifth-largest city, Masvingo.

An Education Interrupted by Riots

Dr. Chigerwe's love of animals led him to applying to Zimbabwe's sole college of veterinary medicine. Supported by good grades and government loans, he entered the school. It took him almost six years to complete the five-year program as riots triggered by an unpopular war with the Congo and economic problems closed the school for a year.

It was a tough time, and being in the wrong place could get you killed.

Classes at the college were small, about 20 students each, and the facilities were adequate and modern. Courses emphasized economically important food animal medicine and wildlife management—a critical part of the country's struggling tourism industry.

His last years in class were tough. Zimbabwe's economy was crashing. Inflation rocketed and the foreign exchange rate made one US dollar worth more than 300,000 Zimbabwe dollars.

Dr. Chigerwe and his classmates faced food shortages and physical danger from starving marauders. His bookwork was supplemented by the need to figure out how he was going to feed himself. Many classmates dropped out, leaving the country.

He hung on and his final year attended a lecture by a US veterinarian on equine and food animal job opportunities in America. A stable economic life teaching veterinary medicine, where he could send money home to the family on the farm, became his goal. But at graduation in 2001, Dr. Chigerwe was dead broke. The country's rampant inflation made it seem like he would never amass the hard currency $1,300 plane ticket, much less enough money to keep body and soul together until his first American paycheck arrived.

After decades of hard work, Dr. Chigerwe got a few lucky breaks. In 2002, he received an e-mailed invitation from Dr. Jeff Tyler (director of the MU Food Animal Clinic and professor and director of clinical research) looking for applicants to the University of Missouri's College of Veterinary Medicine's Food Animal Program. A significant cow-calf state, Missouri seemed like an excellent opportunity. He applied at MU in 2003.

Dr. Chigerwe was accepted into an internship, but that was the easy part. His visa application faced a bureaucratic obstacle course, and there was the unanswered question of funding. An opportunity for a scholarship in Belgium presented itself, but Dr. Chigerwe was holding out for what he really wanted, a shot at being a veterinarian in Missouri.

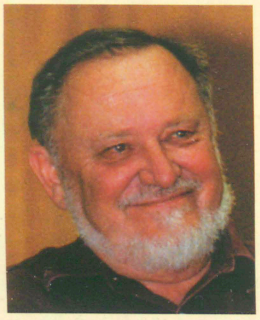
While saving for the plane ticket, watching triple-digit inflation destroy the value of his money faster than he could accumulate it, a friend stepped in to help. Tabitha Madzura, a MU assistant professor, sprung for the plane ticket and help with housing. Dr. Chigerwe was on his way to Missouri.

Living and Teaching In Missouri

Dr. Chigerwe's dream of America and being a teacher has been realized in Missouri. Now a resident, he revels in teaching veterinary medical skills to DVM students, and has plans for his research and PhD studies.

And he still runs about 50 miles per week. Now, however, he can wear shoes. ■

Far away from cities, a family's wealth is what can directly feed or clothe them. Dr. Chigerwe tended his family's herd, giving him early experience for his career in food animal medicine.



Remembering Ben

Long-Time College Fiscal Officer, Ben Riley, Dies

Raymond "Ben" Riley, who spent more than three decades at the University of Missouri College of Veterinary Medicine as its chief fiscal officer, died at his home on Aug. 24, 2005. He was 67.

He helped steer the college through many of its early growth years. During his career, he saw the college evolve from a chronically under funded institution with provisional academic accreditation to one nationally known for its research, teaching, and clinical excellence.

He was also the 'go-to" person in getting things done at the college—from vending machine refunds and parking passes to the acquisition and dispersal of millions of dollars of appropriations.

Ben was the college's first fiscal officer, and there was plenty for the new employee to do. Bookkeeping was spotty at best and the college was chronically under funded. Little fiscal control meant it was almost impossible for any effective long-range planning.

"Prior to my position it was a common occurrence for department chairs to overspend their budgets," Ben said after winning the college's Dean's Impact Award in 1999. "The dean had to make up the deficit, sometimes taking money from other worthwhile projects. One of my initial charges was to fix that. It was fixed and it hasn't happened since. In fact, the legislature once recognized that the MU College of Veterinary Medicine never overspends its budget."

Helping to Grow a College

Ben was born Oct. 4, 1937 in Carrollton, Mo. to Raymond H. and Addie Pauline Riley. He graduated from Carrollton High School in 1955 and received Eagle Scout status as a youth. He served in the Air Force from 1957 to 1961. He graduated from MU with a degree in business management in 1965.

He joined the MU College of Veterinary Medicine in 1968 under Dean B.W. Kingrey as an assistant to the dean. He assisted six deans during his tenure at the university.

Retired associate dean Dr. George Shelton remembers how Dean Kingrey looked to Ben to help the college grow when tuition, state money, and clinical receipts were slim.

"Kingrey brought in new faculty who knew how to prepare research proposals," Dr. Shelton remarked. "Kingrey needed a business type with some knowledge of accounting. Ben had that background and he, too, was a risk taker. Sometimes, they could only prime the pump and hoped the pump would keep pumping for a few years. Some of us thought that if Kingrey and Riley were on the Titanic after it hit the iceberg, and they knew there wasn't enough life boats, Kingrey would have said, 'Ben let's get out another research proposal.' Ben would have said, 'Sir, shall we send it to both the Institutes of Health and the National Science Foundation?'"

When Dean Kingrey retired in September 1973, Ben reported to a new dean, Dr. K.D. Weide. The college's money problems didn't go away even with a $6 million appropriation to the college that had been signed by the Missouri governor. It was only a third of what was planned, and needed, because federal matching funds were no longer available. Nonetheless, the administrative team was able to remodel the east wing of the Veterinary Medicine Building and construct a new Veterinary Medical Diagnostic Laboratory. These needed additions helped the college take a critical step—in 1977 the college received full accreditation by the American Veterinary Medical Association, ending 31 years of probationary accreditation.

Later, Ben would assist in the funding and construction of Clydesdale Hall, the college's state-of-the-art teaching hospital. He also managed several major renovation projects including Middlebush Farm and renovating a cattle stall into the Adams Conference Center. ■

The 'Go-To' Guy at the MU CVM

When I arrived in Columbia Mo, I found a savvy man named Ben Riley firmly imbedded as Assistant to the Dean of the College of Veterinary Medicine. My first reaction was that Ben was a quiet, unassuming, and an efficient individual. Initially I felt that he was purposely non-communicative. However, I quickly realized he was testing the waters to see how I should be handled. He gradually became a loyal ally.

Ben was an essential and calm component of the college's infrastructure and administrative process. He was agile at sidestepping bureaucratic roadblocks and had an innate ability to get things done. He was on a first name basis with campus police; university officials and financial officers; buildings and properties workers; and local mechanics, merchants, and craftsmen. If a vehicle needed repair, a room needed painting, or an electrical failure needed immediate correction, thanks to Ben these people would show up before most of us knew there was a problem. His answer to matters with complex and complicated solutions was to say simply "I'll take care of it"—and he did.

It seemed that Ben was always there when needed. He worked nights and Sundays to meet deadlines and compensated by hunting and fishing expeditions and participating in Ducks Unlimited activities.

In the early 1980s the electronic age was underway and computer use was rapidly expanding but the Dean's office and most of the College was largely without computers. As funds became available and departments computerized, it seemed that the Dean's Office's time to computerize had come and computers were ordered for all hands.

Because of their confidence and typing skills, the secretaries quickly adapted to electronic word processing and spread sheets. Ben's computer, however, sat on his desk and was not plugged in. On several occasions he indicated that he was not much of a computer nerd and didn't need such fancy and expensive equipment.

Later, there was a slight rearrangement of the office to make space for a new person. We asked Ben to order a computer for her. About two days later she expressed surprised pleasure that her brand-new—or at least unused—computer arrived so quickly. I told her to thank Ben. When I walked into Ben's office, his computer was gone but I never mentioned it to anyone. Ben obviously thought she needed it more than he did.

During Ben's tenure with the college, there were innumerable deans, interim deans, associate deans, and department chairs. Ben served them all. I once asked Ben what he thought of this steady parade. In a moment of rare candor, he answered "Deans will come and deans will go but I'll be here forever."

Yes, most of this cadre has come and gone. Now Ben has joined them and departed for what we hope is a better place.

—Robert Kahrs, Retired CVM Dean

Alumni at Large

Jack Stephens Launches Pets Best, A New Pet Insurance Company

Jack Stephens, MU DVM '72 and pioneer in the pet insurance business, has launched Pets Best, a new company offering animal owners medical insurance.

The company is a division of General Fire & Casualty Company. It will initially provide comprehensive insurance plans for pet owners in 25 states, and all 50 states by the end of 2006.

Dr. Stephens draws on 33 years of veterinary and business experience as well as a lifelong passion for animals. "My goal all along has been to provide pet owners with unparalleled protection, including simple-to-understand claims reimbursement and exceptional service. Pets Best's mission is to be worthy of pet owners, veterinarians, and veterinary staff recommendations as their best choice for pet insurance," said Dr. Stephens.

"I looked at the needs of the pet owner where a pet is considered a family member, and focused on what pet owners and their veterinarians wanted that was not available from any other company," continued Dr. Stephens. "I knew from experience that I could provide greater value and higher reimbursement by automating many processes and passing along the advantages to pet owners in a number of ways—more price-sensitive options, higher limits, and better benefits. I had a strong drive to create a cutting-edge insurance product that would pay 80 percent reimbursement and eliminate any disappointment of pet owners with pet health claims."

Pets Best offer three levels of coverage—full coverage, full coverage with lower per-incident limits and a higher deductible to be more economical, and an accident-only plan.

For an additional premium, pet owners can receive wellness reimbursements for specific wellness and vaccination coverage including spaying/neutering, teeth cleaning, vaccines, and annual health examinations of their pet.

Pets Best is entering a field with enormous growth potential, Dr. Stephens said. In the US, the pet health insurance market is still virtually untapped, with a one percent market penetration and fewer than ten companies offering coverage. A 2002 report by Market Trends states that, while spending on veterinary services has increased by 83 percent since 1996, less than one percent of the more than 136 million dogs and cats in this country are covered by pet insurance.

Dr. Jack and Vicki Stephens

Ehlers Wins Veterinary Quiz, Presents Winnings to Student

Kim Ehlers, MU DVM'89, captured the daily high score at the recent conference of the American Association of Bovine Practitioners (AABP) in Salt Lake City, Utah. Dr. Ehlers is a veterinarian at the Whetstone Veterinary Service, LLC in Mountain Grove, Mo.

By playing an interactive quiz sponsored by Novartis Animal Health, the top score earned Ehlers a $1,000 scholarship in her name to be sent to a US veterinary school of her choice. A student enrolled in bovine veterinary medicine at the University of Missouri College of Veterinary Medicine was awarded the scholarship.

The quiz contest was designed to allow veterinarians to help bovine veterinary medicine students continue their education. It also tested attendees' knowledge on topics such as bovine viral diarrhea (BVD), *C. perfringens* Type A, Novartis products, AABP, and Salt Lake City.

Fales Awarded for Teaching By Iowa State University

Amanda Fales-Willams, MU DVM '95 and assistant professor of veterinary pathology at Iowa State University, was recently presented the Iowa State University Foundation Award for Early Achievement in Teaching.

The award recognizes a tenured or tenure-track faculty member who has demonstrated outstanding teaching performance unusually early in his or her professional career.

The award states that Dr. Fales-Williams made skillful and creative use of computer technology to bring experiential and real-world learning into her courses in the senior clinical pathology rotation. She is a collaborator on two federally funded projects to develop Web sites for teaching histopathology. Her research involves educational learning and assessment, antimicrobials and pulmonary pathology.

Her research focus includes studies into antimicrobial peptides and development of immunocytologic techniques for cytologies of neoplasms. She also researches infectious diseases of the respiratory tract, with emphasis on *Rhodococcus equi* pneumonia of foals, and the utilization of immunohistochemistry for tissue sections and cytologies for classification of neoplastic cell types.

Dr. Amanda Fales-Williams, MU DVM '95, receives an award for early achievement in teaching from Iowa State University Foundation President Dan Saftig.

Dr. Fales-Williams is married to Dr. William Williams, also MU DVM '95.

Dr. Williams is an associate at Altoona Veterinary Hospital, a companion animal clinic, in Altoona, Iowa. After graduation from MU, he practiced in a small animal veterinary hospital group in Des Moines and West Des Moines for seven years. He moved to his current job more than three years ago. The family has a daughter, Laurel, who is almost three years old, two geriatric dogs, geriatric and middle-aged cats, and one voting-age parrot.

Washington Officials Visit MU CVM To Discuss Avian Flu Preparedness

US Senator Jim Talent chaired a roundtable at the University of Missouri College of Veterinary Medicine on Jan. 7, 2006 that featured Mike Johanns, the US Secretary of Agriculture, and several other veterinary and agriculture officials to discuss the federal government's efforts to prepare for the avian flu.

"Avian flu is first and foremost an animal disease, which is why it is so important for the government to partner with the agriculture community in Missouri and around the country to protect against an outbreak," Sen. Talent said. "We are doing everything

possible in the Senate to anticipate and prevent an outbreak by providing emergency funding and holding oversight hearings."

Other participants included US Rep. Kenny Hulshof (R-Columbia); Dr. Joe Kornegay, dean of the MU College of Veterinary Medicine; Dr. Alex Bermudez, director of MU's Veterinary Medical Diagnostic Laboratory; Dr. Shane Brookshire, Missouri state veterinarian and MU DVM '97; Dr. David Hopson, state federal veterinarian in charge and MU DVM '77; Dr. Fred Ferrell, director of the Missouri Department of Agriculture; Dr. Tom Payne, dean of the College of Agriculture, Food and Natural Resources at MU; and Dr. Howard Pue, the state public health veterinarian.

Avian Influenza (AI) is primarily an animal disease caused by certain strains of the influenza virus. Although very weak strains of AI are occasionally found in US birds, the more potent H5N1 strain that is causing concern in Asia and Europe has never been identified in the US. The current outbreak in Southeast Asia and parts of Europe is affecting poultry and a limited amount of humans that have been in direct contact with the infected animals. The virus has not yet demonstrated the ability to pass directly from human to human, and science has not determined whether this is possible.

In 2004, MU's Veterinary Medical Diagnostic Laboratory became part of the National Animal Health Laboratory Network that designates the center as a location to assist with responses to biological and chemical threats to animal agriculture and the security of our food supply.

Food Animal Veterinarian Wins Missouri Special House Election

Charles Dake, MU DVM '96 and a livestock veterinarian from Miller, Mo., won a legislative seat in the Missouri House of Representatives when he captured almost 56 percent of the vote against Republican Eric Seifried.

He was one of three new legislators elected in a special election in early February. His seat represents the 132nd District that covers much of southwest Missouri, including Springfield.

The race was the third for Dr. Dake, who lost races for the Missouri House in 1996 and 2002. He will hold the seat until 2006 and the next round of elections.

Several MU veterinary medicine alumni participated in a round table discussion on avian flu preparedness.

CLASS NOTES

60's

Robert Smith, MU DVM '60, was installed as district governor for the Lions Club International. He lives in Liberty, Mo. and will serve the Kansas City area.

70's

M.B. Jones, MU DVM '72, spoke to the Versailles (Mo.) Visionaries Chapter of the American Business Women's Association about his experiences as a volunteer in Louisiana after Hurricane Katrina. He traveled to the area with Missouri Task Force One-Urban Search and Rescue (Boone county). He lives in Versailles.

Steve Walstad, MU DVM '75, was featured in a Joplin (Mo.) Globe newspaper story last September. Dr. Walstad, a veterinarian with the Joplin Animal Hospital, donated animal-specific oxygen masks to the area fire department. The masks will be carried on the department's emergency response vehicles.

Thomas Dorsey, MU DVM '79, was named Hannibal's Favorite Veterinarian in a People's Choice Contest sponsored by the Hannibal (Mo.) Courier-Post newspaper. This was the seventh year that Dr. Dorsey won. He has operated the Hannibal Veterinary Clinic for the last 20 years.

80's

James Crooke, MU DVM '80, recently sold his Springfield, Mo. clinic to pursue a new career in teaching high school physics and biology.

Ava Frick, MU DVM '80, was named runner up for Hartz Veterinarian of the Year. The program honors veterinarians who have demonstrated an outstanding commitment to patients, their families, and to their communities. She lives in Union, Mo. and is involved in the field of animal rehabilitation.

Candy Burton, MU DVM '82, joined the Banfield Pet Hospital in Tucson, Ariz.

Barbara Eichler, MU DVM '83, was named Best Veterinarian in the Best of 2005 contest sponsored by the Journal-Northwest newspaper in St. Louis County. She lives in Florissant.

Scot Greer, MU DVM '85, was recognized by the Marshfield Mail (Mo.) newspaper for saving a dog who was impaled on a hay bale spike. Dr. Greer operates the Animal Medical Center in Marshfield.

Ross Henry, MU DVM '86, recently held a ribbon cutting ceremony for his Kimberling Animal Hospital in the Branson, Mo. area. He purchased the facility from Charles Hoover, MU DVM '67.

Doug Morris, MU DVM '89, and his wife Julie, celebrated the tenth anniversary of their clinic, the Morris Animal Hospital, in Mishawaka, Ind. The family has three children, Sarah, Matthew, and Jacob.

'90's

Scott Bormanis, MU DVM '94, and his wife Debra, announced the birth of a daughter, Lauren Marie, born Nov. 16, 2005 at the Community Hospital, Fort Belvoir, Vir.

Thomas "Butch" Jones, MU DVM '95, is building a new clinic northwest of his current facility in Festus, Mo. He operates the Jones Animal Health Clinic.

The Bormanis family.

John Walter, MU DVM '95, recently cut the ribbon opening his new Atchison County Veterinary Clinic in Tarkio, Mo. The facility is at 117 Main Street.His wife, Jane, is office manager.

Paula Mohan, MU DVM '96, reports the birth of a son, Sawyer Andrew Mohan, born May 7, 2005. He joins sister Grace. They live in Farmington, Mo.

Chris Morrow, MU DVM '96, joined the Maple Woods Community College, north of Kansas City, as coordinator of the veterinary technology program. Before joining the college, Dr. Morrow was a veterinarian at the Ark Animal Hospital in Liberty, Mo.

Justin Berger, MU DVM '98, recently purchased the Animal Health Center of Rolla (Mo.) from **Drs. Shane and Melissa Brookshire**, both MU DVM '97. Dr. Shane Brookshire was recently appointed Director of Animal Health and Missouri State Veterinarian.

Tiffany Landrum, MU DVM '99, has opened the Countryside Veterinary Clinic near Caledonia, Mo.

Julie Lassere, MU DVM '99, and her husband Tracey, announced the birth of a son Ethan Joseph, born Feb. 16, 2005. He joins sister Erin Jesse, age 2. The family lives in St. Charles, Mo.

'00's

Derek and Aarah Craig, both MU DVM '00, announced the birth of a daughter, Raegan, born Sept. 14, 2004. The family lives in Waverly, Tenn.

Linda Lackman, MU DVM '01, is a new associate at Markway Veterinary Services, St. Thomas, Mo. She announced the birth of twins, Dorothy and Clara Jo.

Keri Berka, MU DVM '04, is practicing at the Center Moriches Veterinary Hospital in Center Moriches, NY.

Joel Farthing, MU DVM '05, won the "Mr. Legs" contest sponsored by the Lincoln County Journal newspaper, Troy, Mo. Eighteen men from sponsoring businesses competed in the contests that saw 302 votes. Dr. Farthing is employed by the Wentzville Veterinary Clinic.

Ashley Friggle and Kevin Miller, both MU DVM '05, began practice at the Aurora (Mo.) Animal Clinic in June 2005. The facility is owned by Paul Bader, MU DVM '87.

Michelle Gengler, MU DVM '05, joined the Banfield Pet Hospital in Lynnwood, Wash.

IN MEMORIAM

Gerald McKee, MU DVM '50, passed away Sept. 27, 2005 in St. Joseph, Mo. He was born on May 29, 1922 in rural Pickering, Mo., north of St. Joseph. He attended Northwest Missouri State University and Southwest Louisiana Institute in Lafayette, La. before enlisting in the US Navy in 1942. He was honorably discharged as a lieutenant in 1946. After graduation from the MU College of Veterinary Medicine, he practiced in Pickering until 1968 when he joined the Missouri Department of Agriculture. He retired in 1991. He is survived by his wife of 54 years, Shirley; a son, Randy; and daughters Vicki McKee and Jackie Zarzour.

Carrol Eugene Vulgamott, MU DVM '51, died May 28, 2005. He was born in Graham, Mo. on Oct. 17, 1925. He graduated from Maryville (Mo.) High School and attended the University of Missouri before serving in the US Army in the Philippines. He graduated Phi Beta Kappa from the MU College of Veterinary Medicine. He practiced in Maitland and Savannah, Mo. for 35 years before accepting a position of federal meat inspector for Kansas, Missouri, and Nebraska. Dr. Vulgamott married Dorothy Ulmer in 1947, and the couple had three children, Carla Cooper, James Vulgamott (MU DVM "77), and Judi Landrum. In 1973, Dr. Vulgamott married Patty Farris.

Dr. Allen G. Spreitzer, MU DVM '56, passed away April 22, 2005. He lived in Fishers, Ind. He was born July 26, 1920 in St. Louis to the late John B. and Nora (Jones) Spreitzer. Dr. Spreitzer worked for the USDA for 20 years before retiring in 1985. He served in the US Army as a Captain. He was deployed to the Korean War and was a recipient of the Purple Heart and Silver Star. He was a member of the Holy Trinity Catholic Catholic Church in Edinburg, Ind. Dr. Spreitzer is survived by four sons, Allen George Spreitzer Jr. of Washington, DC, John B. Spreitzer of Fishers, Timothy G. Spreitzer and Leo T. Spreitzer, both of Indianapolis; one daughter, Patrice Mary Spreitzer of Indianapolis; five grandchildren, Michelle, J.J., Mathew, Jackelyn, and Tim; and two great-grandchildren, Quinlen and Marissa.

George Pennell, MU DVM '69, died April 17, 2005. He lived in Purdy, Ark. Dr. Pennell was born March 25, 1936 in Barry County, Mo., the son of George and Lucy (Morlan) Pennell. He attended Verona High School near Cassville, Mo., and was a member of the Missouri National Guard. On July 4, 1985, he married Mary Lynne Wooddell, who survives. Other survivors include a son, Quinton Pennell, of Neosho, Mo. Three daughters also survive: Sammye Phelps of Colorado Springs, Anne Pannell of Purdy, and Francie Pennell of Springfield, Mo.

Leonard William West, MU DVM '69, Springfield, Mo., died Jan. 3, 2006 following a long battle with cancer. He is survived by his wife, Margery; his father, Leonard Sr.; his son, Stephen and wife, Teresa, of Imperial, Mo.; his son, Kevin, of Olathe, Kan.; his stepdaughter-in-law, Lia Latham, of Springfield; and four grandchildren. Leonard was born on March 26, 1944, in St. Joseph, Mo., and raised by his parents, Leonard Sr. and Winnifred West, on a dairy farm near Mt. Vernon, Mo. He was the first in his family to go to college. He then served two years in the Air Force, after which he and his first wife moved to St. Louis where he practiced veterinary medicine. In 1974, he bought Parkcrest Veterinary Hospital in Springfield, Mo., and ran a thriving small animal practice until 1988. He then sold the practice and went to work for the US Dept. of Agriculture. During the course of his employment with USDA, he and his wife, Margery, lived in Neosho, Mo., Festus, Mo., and in Springfield, Mo.

Tom Houghton, MU DVM '70 and owner of veterinary clinics in Lakeland and Winter Haven, Fla., died Feb. 13, 2006 in a farm accident in his birthplace of Polo, Mo. He was 60. Dr. Houghton was visiting his parents and brother, who have adjacent farms in Polo, when the accident occurred. He owned the Cleveland Heights Animal Hospital in Lakeland for more than 30 years. Dr. Houghton was born May 12, 1945, in Polo, a small town about 50 miles northeast of Kansas City, Mo. He moved to Lakeland from Miami in 1971. He is survived by his wife, Debbie; a brother, Jerry Houghton of Dallas; and sisters Yvonne Ridder, Marthasville, Mo., and Connie Fleming, Lakeland.

David "Doc" Classen, MU DVM '76, died Aug. 1, 2005. He lived in Liberty, Mo. Dr. Classen was born Sept. 12, 1948, in Omaha, Neb. He operated the Liberty Animal Hospital. He was a member of St. James Catholic Church and the AVMA. Preceding him in death were his mother, Catherine Grosse-Rhode Classen and an infant brother, Daniel Classen. Survivors include his wife of 35 years, Michelle; two daughters, Brooke Vaughn and her husband, Brice, and Brienne Classen; three grandchildren, Jillian and Jace Vaughn and Colby Classen Jones; his father, Donald Classen; and two sisters, Cheryl Lucas and Candace Granlund.

Kimberlee Dortch (nee Gonterman), MU DVM '79, died April 3, 2005. She lived in St. Louis. Surviving are husband Greg Dortch, son Weston James Frazier, and mother Melody Gonterman. Dr. Dortch was a yacht master of ocean sailing and Olympic gold medalist in synchronized swimming.

Annette Brown, MU DVM '82, died June 24, 2005 in her home in Springfield, Mo. She was born Sept. 24, 1950. Dr. Brown had been a practicing veterinarian until 2002. She was preceded in death by her father, John Andrews. She is survived by her mother, Maxine Andrews, and a brother, J.E, Andrews.

Harlan Jensen, DVM, PhD, 90, died Dec. 30, 2005 in Ft. Worth Texas. As a faculty member, Dr. Jensen was instrumental in establishing ophthalmology education at the MU College of Veterinary Medicine. He was born Oct. 6, 1915, in northern Iowa. He attended Iowa State University and graduated first in his veterinary school class in 1941. He practiced in Illinois, New Jersey, Ohio, California, and Texas. He had an early interest in ophthalmology studying with various medical ophthalmologists and lecturing at national veterinary meetings. At age 50, he went back to school to earn his PhD at the University of Missouri College of Veterinary Medicine. He taught veterinary ophthalmology at MU for 15 years. Survivors: Wife of 64 years, Naomi Geiger Jensen; daughters, Kendra Jensen Belfi, M.D. of Fort Worth and Doris Jensen Futoma, MD of Indiana; son, Richard Harlan Jensen of Benbrook; three grandchildren; and one great-grandson.

Anthony R. Rubano, MU DVM '63, died on Sept. 24, 2005 in Scottsdale, Ariz. He was born Dec. 13, 1935 in St. Louis. He practiced in New Mexico, Texas, and Arizona. Dr. Rubano retired from The Animal Hospital at McCormick Ranch, Scottsdale in 1999. Later, he returned to veterinary practice part-time as a relief practitioner.

Floyd A. Elliott, MU DVM '53, died Jan. 29, 2006 in Bakersfield, Calif. He leaves behind his wife of 62 years, Lottie Jean Elliott; children and spouses, Allen and Janet Elliott of Camarillo, Donna and Don Fink of Bakersfield, Bonnie Elliott of Santa Barbara, Ross and Kris Elliott of Bodfish, Calif. Born Nov. 5, 1919 in Dawn, Mo., Dr. Elliott served in the US Army Air Corps in World War II. He piloted a B-25, was shot down over Italy, and held in a German POW camp for over a year. Moving to Porterville in 1955, "Doc" Elliott started a large and small animal practice. He maintained his practice in Porterville and Lindsay, Calif. for some 43 years.

Do the dead haunt MU?

Is Columbia, Mo. haunted? Or more specifically, are some of its oldest buildings inhabited by the spirits of the dead who, for their own reasons, occasionally show themselves to the living?

Local legends have grown up around these sightings. Many of them seem to involve the area's participation in the bloodiest conflict in American history, the Civil War. Columbia was an area of intense conflict during the rebellion. Surrounded by two Confederate States and two Union States, Missouri had declared itself with the Union, but the majority of its residents favored southern sympathies.

Other tales involve suicides or other untimely deaths. Because of the number of colleges in the city, many of the apparitions seem to have a higher-education bend.

Columbia College's Gray Ghost

Columbia College was founded in 1851 as an all-female school called Christian College. One young student was engaged to a Confederate soldier and vowed to wear only grey clothing so long as he did, at least until a white wedding gown could replace it. However, her fiancé was killed by Union soldiers not far from the college and the girl jumped from a three-story building called the Conservatory, now known as Williams Hall.

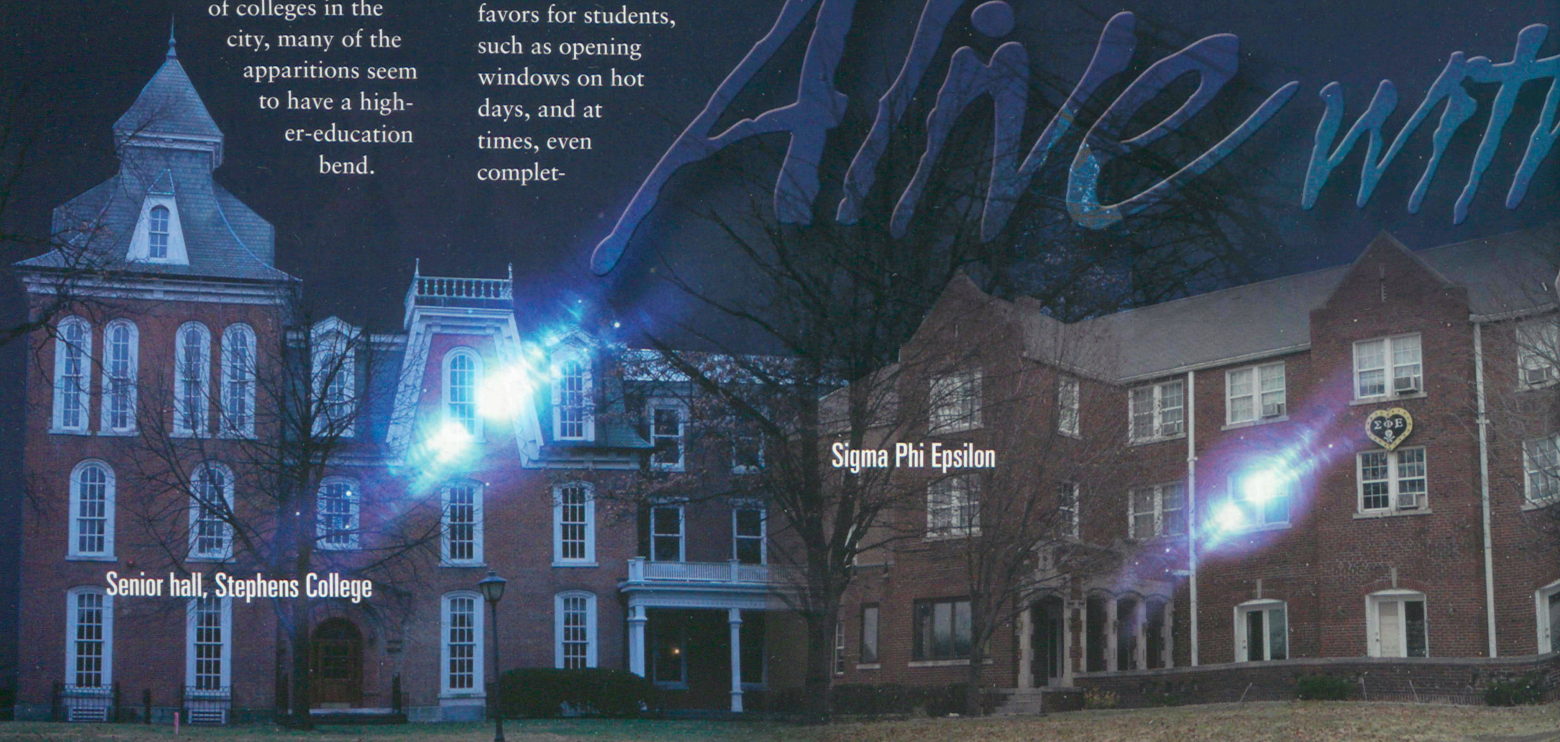
Occasionally, the "grey lady," as the apparition is called, is spotted on the campus grounds. Seemingly benevolent, she is usually glimpsed as a fleeting figure in grey, passing through college buildings and creating an almost indescribable presence. At other times, she is said to do small favors for students, such as opening windows on hot days, and at times, even completing their ironing.

Another ghost on Columbia's campus seems to dwell in the Delta Sigma Phi Fraternity House. This house, which was once owned by a sorority, is said to be haunted by a petite young woman who died of appendicitis. Appearing wearing 1920's era pajamas, the house members believe that the girl's name is Eleanor. She has apparently been seen in the basement, hovering in a corner. Other mysterious occurrences have been reported in the house that include flickering lights and televisions, footsteps and slamming doors, and clothing flying across the room.

MU's Apparitions

MU's Sigma Alpha Epsilon Fraternity is another place where strange things happen in the basement. Fraternity members believe the happenings arise from there because the basement was originally dug for a house on their site that burned in 1907. The earlier house had sheltered mental patients and served as a morgue for Civil War casualties. Today, Confederate soldiers are sometimes seen in the basement. It is said that a 1947 pledge class was forced to spend a night in the basement, but every one of them de-pledged the next day without explaining their reasons.

Like Delta Sigma Phi, the MU Sigma Phi Epsilon Fraternity House was also once a sorority. In the 1940's it housed a young Jewish woman. Upon learning that her parents had died in a concentration camp, she hanged herself by fastening a rope to a radiator and jumping from a window. Today,



Senior hall, Stephens College

Sigma Phi Epsilon


Missouri Theater

a restless spirit shows herself in a floating reddish light and through the sounds of footsteps on the stairs and hallway. Her appearance is often accompanied by eerie happenings including lights turning on, doors opening, and showers turning on without the help of human hands.

The Residence on Francis Quadrangle is one of the most beautiful and historically significant structures on the University of Missouri-Columbia campus, and one also said to be haunted. Built in 1867, the three-story Italianate home is the oldest building on the MU campus.

Among the many tales that surround the Residence is a claim that it is haunted by the wife of a former University president. In May 1874, President Daniel Read's wife, Alice, died in the Residence. Her death, coupled with a report in an April 1890 edition of the *Columbia Missouri Herald* that "ghostly apparitions" were seen dancing in the windows of the upstairs bedrooms, fueled rumors that the house is haunted.

Timid and Mean Sightings

Columbia's other college, Stephens College, is not immune. In 1862, an Independence, Mo. girl by the name of Sarah Wheeler attended this college, living in one of the oldest buildings on the campus. Becoming involved with a Confederate corporal by the name of Isaac Johnson, Sarah and some of her friends hid the soldier for several days when he was fleeing from federal pursuers.

However, Johnson was soon discovered and was executed by firing squad under Sarah's window as a lesson to other girls who might befriend the enemy. The distraught Sarah then killed herself. Today, it is said that Sarah haunts Senior Hall at the college, running away when spotted.

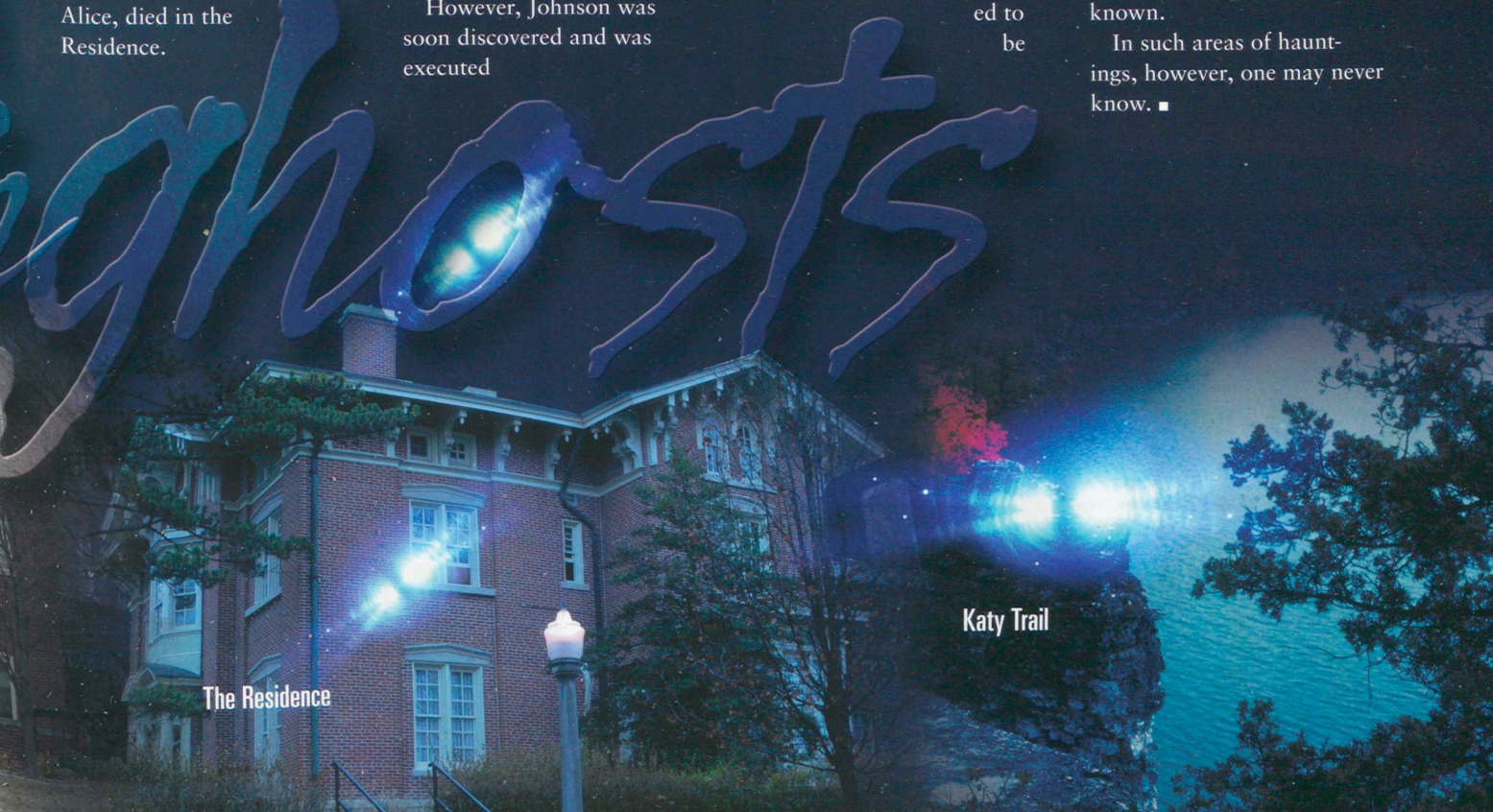
Off campus, Columbia's Missouri Theater is said to be haunted by the ghost of a former owner whose spirit has never been seen. Witnesses report his presence by peculiar clanking noises that are often heard when the curtains rise and fall without prompting. The theater is located at 9th Street at Locust and today is home to classical music festivals and old movie screenings.

Not all of the ghosts prefer the indoors. The Katy Trail hiking park, once the MKT Railroad right-of-way, has been reported to be haunted. When there is a full moon, an angry one-armed man is said to pace beneath the I-70 Bridge.

Most of Columbia's ghosts seem to be pay little attention to the living. Many ghosts seem to be afraid of people, and flee when spotted. One Columbia ghost, however, is said to try to attack his onlookers.

This is the Rock Bridge State Park Ghost. This park houses a cave called Devil's Icebox said to be haunted by a malevolent spirit with glowing red eyes. Located seven miles south of Columbia on Highway 163, visitors have suffered severe accidents in this cave. Whether this is from fleeing a mean spirit, or just being clumsy in the cave's seven miles of passages, is not known.

In such areas of hauntings, however, one may never know. ■



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Two Lives

Age	*Rate**
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65–65	5.6%
70–70	5.9%
75–70	6.1%
75–75	6.3%
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80–80	6.9%
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85–85	7.9%
90–85	8.4%
90–90	9.3%

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VETERINARY MEDICAL REVIEW

College of Veterinary Medicine
W203 Veterinary Medicine Building
College of Veterinary Medicine
University of Missouri-Columbia
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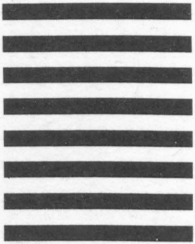

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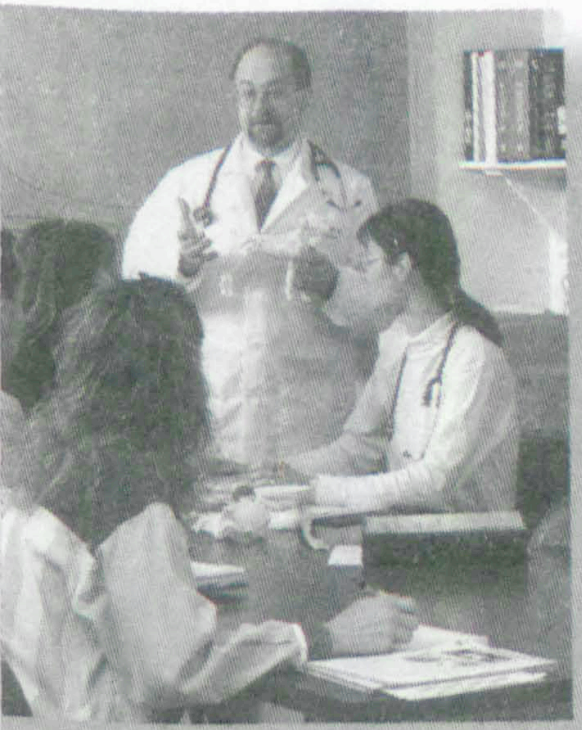

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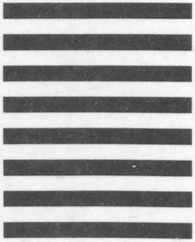

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