

# EXCELLENCE AND LEADERSHIP IN RESEARCH, TEACHING AND SERVICE

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## THE HITCHING POST

### DEAN OLSON EXAMINES NRC REPORT ON VETERINARY WORKFORCE NEEDS

**A**t the University of Missouri College of Veterinary Medicine (CVM) commencement this past May, alumnus Dr. James Gilkerson, CVM '74, addressed the graduating class. He spoke eloquently of his journey from owning a mixed animal practice in a small community in rural Missouri to a career in research and development designing cardiac devices that extend and improve people's lives. Among his most telling remarks, "The things you learned in veterinary school didn't exist when I was in veterinary school."

Since its beginnings, the veterinary profession has been in continuous transition as our understanding of and relationships with animals have evolved. This remains no less true today. As Dr. Gilkerson pointed out in his address, the rapid change and evolution of our profession brings with it a challenge: Will we determine our future place in society or will we respond reactively, and thus allow our role to be determined for us? If we choose the latter, our profession will surely



contract and become less relevant to societal needs.

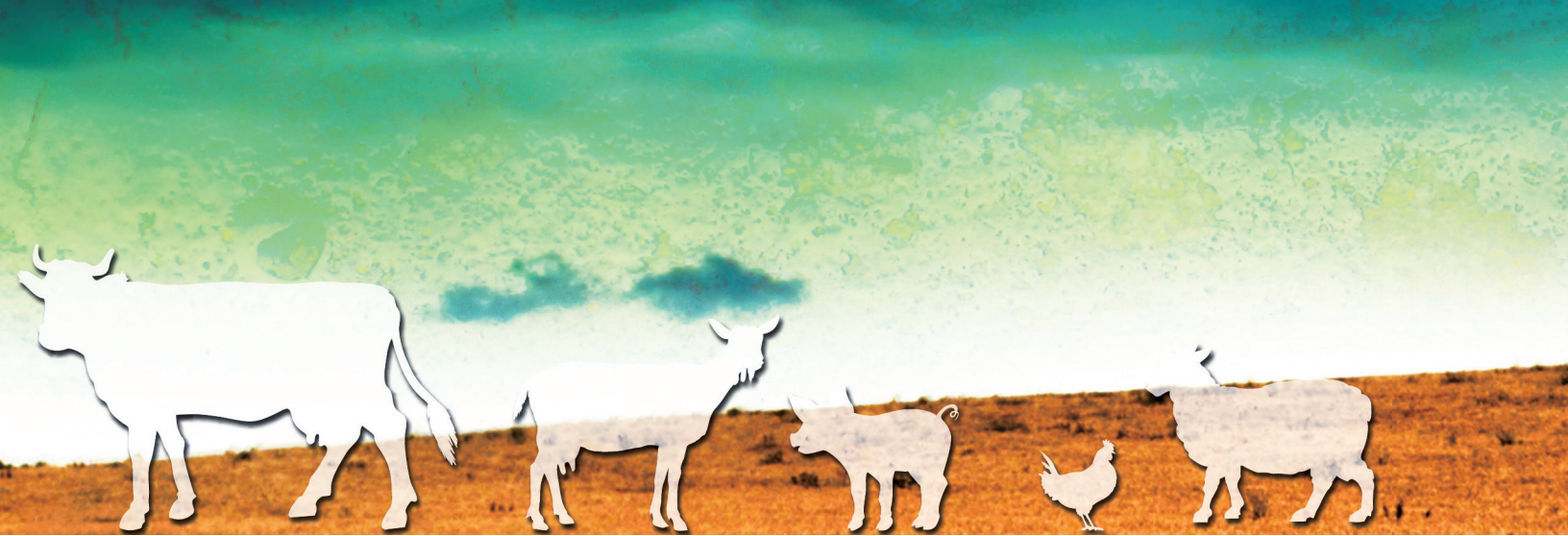
There has been much discussion surrounding the recently released National Research Council (NRC) for the National Academy of Sciences study, "Workforce Needs in Veterinary Medicine," (<http://dels.nas.edu/Report/Workforce-Needs-Veterinary-Medicine/13413>). The NRC report points to a number of uncertainties, including those for practices involving companion animal care, due to the continuing economic recession accompanied by a lack of documented evidence that there is

a widespread shortage of veterinarians. Importantly, the report affirms the College leadership's position that rather than an excess of DVMs, there exists a maldistribution within the profession. The report notes that the original objective in establishing veterinary schools at land grant colleges, such as the University of Missouri, was to support agriculture and food animal medicine. The MU CVM Mission Statement (next page) encompasses this historic purpose and addresses the complexities of meeting current and future requirements of developing a workforce trained to meet society's needs.

The NRC report emphasizes the critical distinction between workplace shortages and unmet societal needs. Indeed, societal needs for veterinary expertise are substantial and growing and the potential contributions of veterinary medicine have not yet been realized. "The veterinary workforce of today may bear little resemblance to the one 10 to 15 years from now," according to Dr. Andrew Maccabe, executive di-

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#### *Workforce needs continued*

rector of the Association of American Veterinary Medical Colleges. “As the population increases and veterinary medicine evolves, we expect that veterinarians will fill more roles in a broad range of careers not typically linked in the public’s mind with veterinary medicine ...” It is clear that long-term planning for the future of the profession requires decades of effort, and that we look beyond immediate economic scenarios and short-term needs. At MU, we are very well positioned to educate the next generation of veterinarians who will serve all the needs of our diverse profession including the One Health/One Medicine initiative. In fact, even in the face of a sluggish economy, unemployment and the struggle to start careers seen by graduates in numerous other fields, the CVM prides itself on a 100 percent job placement rate for all of our graduates.

Nearly four years ago the CVM increased the number of students admitted. The decision to increase the class size was made after a great deal of reflection based upon available data of anticipated societal needs, our graduates’ employment rates, our ability to adapt our curriculum to ensure that our students’ education would remain top-quality, and finally the projected impact on the college if we failed to take this step. We currently admit 60 Missouri residents and 60 non-resident

**W**e are Missouri’s only College of Veterinary Medicine. Our mission is to educate and train outstanding clinicians and scientists, generate new knowledge, and foster economic growth, all of which promote and protect the health and welfare of animals and people. We are guided by a One Health/One Medicine philosophy, strengthened by campus wide collaborations with human medicine, animal and life sciences, agriculture, engineering, and the other health professions.

students into each class. We are, of course, accountable to the state we serve, our graduating students and certainly our alumni. In order to assuage concerns that the companion animal market in Missouri was becoming oversupplied and that increasing the class size would aggravate that potential issue, we drew the additional students we admitted from the pool of out-of-state applicants. As there are only 28 schools and colleges in the United States conferring the DVM degree, there are many students who lack the opportunity to seek their professional veterinary education within the borders of their home states. However, through their intellect, motivation and willingness to sacrifice, they have proven time and again to be exemplary students and future leaders in our profession. Upon graduation, we expect that nearly all of the out-of-state students will leave Missouri to begin their careers.

Despite our success in placing our graduates, we have long recognized that increased emphasis must be placed on sectors of the profession outside of companion animal medicine. Accordingly, we adjusted our

admissions standards to award credit to aspiring veterinary students for experience in public health and research. We also modified our curriculum to accommodate the opportunities in veterinary sectors outside of companion animal medicine. Assessment and evolution of our curriculum will continue as part of our strategic planning process and to allow us to improve quality of education and flexibility of training. Among our most dynamic and recent initiatives was the development of a program that allows students to pursue concurrently a DVM and a Master of Public Health degree. We currently have 12 students enrolled in the dual DVM/MPH program. In addition, our students have the capability to pursue graduate training in other areas.

The NRC report also addressed the importance of the veterinary profession investing in its future through biomedical research. We are proud of the CVM Veterinary Research Scholars Program (VRSP), which was established to encourage students to explore research projects while learning to appreciate the

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#### *Workforce needs continued*

challenges, stimulation and career growth potential of the field. The program was established in 2005 and in its inaugural year had 10 students participating, each assigned to a faculty mentor. In 2012, the VRSP had its most successful year to date with 33 students engaged in scientific research under the mentorship of faculty. Our students also have the option to pursue research training by enrolling in other graduate programs while completing the DVM degree. For example, we currently have two students who are obtaining a master's degree in animal science concurrent with their DVM training. It is also of note that up to 30 percent of our graduates pursue post-doctoral training and up to 40 percent report entering sectors of veterinary medicine other than private practice immediately following graduation.

Decreasing state investment in education and increasing student debt are also threats to the veterinary profession. Indeed, during the past several decades declining state support has placed enormous financial constraints on the College. Since 2001, state appropriations to the University of Missouri have decreased 12 percent while total university enrollment increased 47 percent. Missouri is now 44th nationwide in spending on higher education. Sensitive to the increasingly disproportionate student debt burden in rela-



tion to average starting salaries for veterinarians, we have attempted to minimize tuition and fee increases. With in-state tuition and fees set at \$20,092 per year, and out-of-state tuition at \$49,398, MU remains an extraordinary value when compared to other DVM programs. We also offer one of the most accommodating policies to students attempting to qualify for in-state student status. The average debt load for all members of the MU CVM Class of 2012 was \$117,804. Compare that to a national average in 2011 of \$142,613, and our commitment to addressing the College's financial pressures without exacerbating the looming crisis of affordable education is clear. The College also employs a financial counselor who speaks with all of our veterinary students and offers advice on managing their financial affairs and debt reduction strategies, and makes sure they are provided with information on grant and loan opportunities.

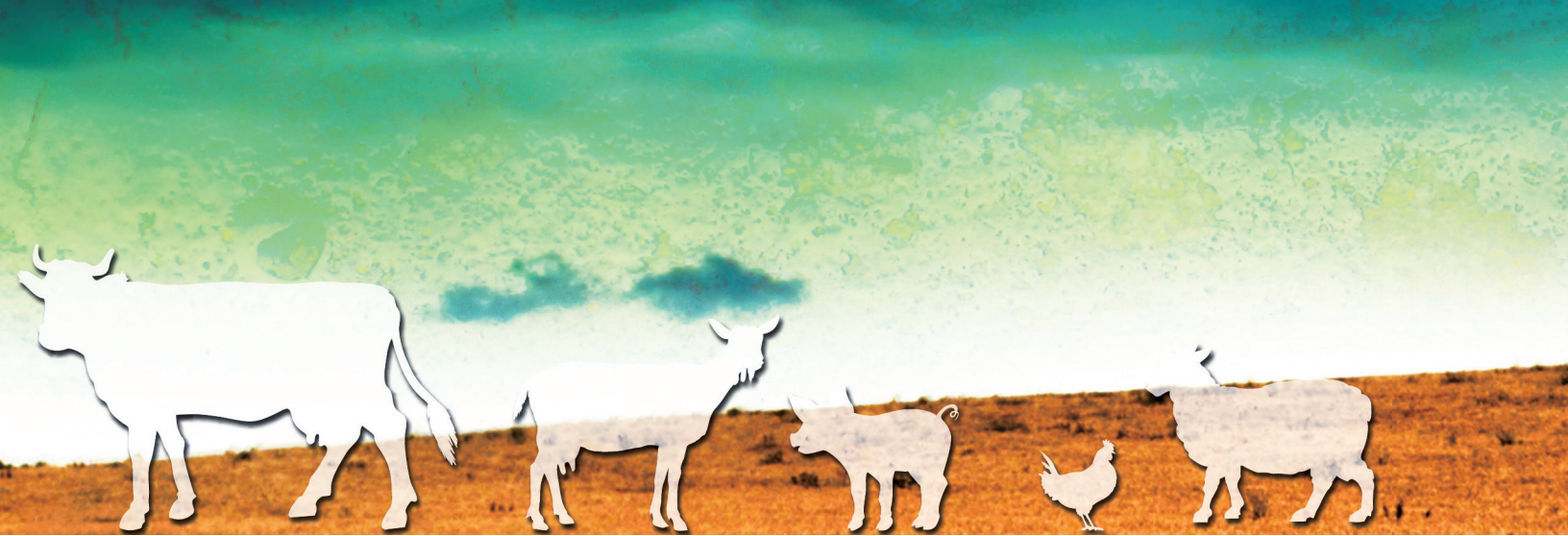
Without an influx of additional tuition revenue, the CVM would have

been placed in the untenable position of being forced to cut faculty positions, halt research programs, discontinue utilizing the latest technologies, and scale back clinical, diagnostic and pathological services. Our ability to educate veterinarians, care for companion animals, secure the health of food animals, and fight diseases affecting both animals and humans would have been curtailed. Indeed, this very issue faced by veterinary schools and colleges is addressed in the NRC report:

"A major trend affecting veterinary academe is the precipitous decline in state support for faculty positions and tuition support, resulting in reduced hiring, layoffs, and the elimination of whole programs from veterinary schools. ... Colleges and schools of veterinary medicine face a precarious situation. They are in desperate need of trained graduates for faculty positions in structural biology, physiology, pharmacology, pathology, clinical pathology, infectious diseases of animals and zoonotic diseases, virology, microbiology, food safety, epidemiology, and nutrition. ... In the near future, the profession will experience major setbacks if veterinary schools lack a sufficient number of experts to serve as faculty. Unfortunately, the trends suggest that the academic veterinary community will not meet its own needs, let alone those of state

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#### *Workforce needs continued*

diagnostic laboratories, federal research and regulatory agencies, or the pharmaceutical and biologicals industry.”

To forestall this dire scenario, we became entrepreneurs. We opened a cancer treatment center proximate to our St. Louis clients to facilitate cancer treatment for their pets, and we improved our financial position through the sale of RADIL. Thus, increasing class size was one of several proactive steps we have taken to protect the future of Missouri’s only College of Veterinary Medicine.

Moving forward, we recognize that we need to increase our efforts to attract students who are motivated to work in those sectors of the profession that the NRC has identified as being underserved — academia, food animal production and security, water safety and security, wildlife and ecosystem health, and zoonotic and bioterrorism threats — and we must further tailor our curriculum to meet the academic needs of these future scientists who will embark upon careers in an ever-expanding field of veterinary disciplines.

To have responded to the complex needs of the global community with inaction was not a course we could in good conscience follow.



## THORNE IS NAMED CVM ALUMNUS OF THE YEAR

**D**r. James Thorne, DVM '61, was honored as the MU College of Veterinary Medicine 2012 Alumnus of the Year during the College’s Alumni Reunion Weekend. Thorne earned both a bachelor of science degree in agriculture in 1960 and doctor of veterinary medicine in 1961 at the University of Missouri. He went on to complete a PhD in physiology at the University of Georgia and earn a master of preventive veterinary medicine degree at the University of California–Davis.

Thorne began his career in 1961 at the Green Hills Animal Hospital in Marceline, Mo. He also worked as the director of veterinary services for the U.S. Veterinary Corps at Bergstrom Air Force Base in Austin, Texas, and in general veterinary practice at the Wellsville Animal Clinic, in Wellsville, Mo. He became an instructor

at the University of Georgia College of Veterinary Medicine Department of Medicine and Surgery in 1969 before being named a research associate in the department of Physiology and Pharmacology, and in 1972, a veterinary medical resident in physiology and pharmacology.

In 1974, he returned to the CVM as an associate professor in Veterinary Medicine and Surgery. He served as the director of Veterinary Continuing Education and Extension from 1982 to 1988. Since 1988, he has served as a clinical epidemiologist at the CVM, where he is also an associate professor. Thorne is also well-known for his role as an advisor and sponsor of the CVM Mule Club. He has spent countless hours traveling the state driving the mule team and serving as a goodwill ambassador for the College.





## EARLIER TEST FOR ARTHRITIS DEVELOPED

**M**ore than 27 million adults currently suffer from osteoarthritis, which is the most common form of arthritis. In the past, doctors have been unable to diagnose patients with arthritis until they begin to show symptoms, which include joint pain and stiffness. By the time these symptoms are present, it is often too late for preventive and minimally invasive treatment options to be effective. Now, a research team from the University of Missouri's Comparative Orthopaedic Laboratory has found a way to detect and predict arthritis before patients begin suffering from symptoms.

James Cook, a researcher from the MU College of Veterinary Medicine and the William C. and Kathryn E. Allen Distinguished Professor in Orthopaedic Surgery, along with MU researchers Bridget Garner, Aaron

Stoker, Keiichi Kuroki, Cristi Cook, and Prakash Jayabalan, have developed a test using specific biomarkers that can accurately determine if a patient is developing arthritis as well as predict the potential severity of the disease.

"With this biomarker test, we can study the levels of specific proteins that we now know are associated with osteoarthritis," Cook said. "Not only does the test have the potential to help predict future arthritis, but it also tells us about the early mechanisms of arthritis, which will lead to better treatments in the future." In their study published in the *Journal of Knee Surgery*, the MU researchers report that they developed the test by analyzing the joints of dogs that suffer from arthritis. Veterinarians predict that 20 percent of middle-aged dogs and 90 percent of

older dogs have osteoarthritis in one or more joints. Since canine joints operate similarly to the joints of humans, Cook says the test is being adapted to human patients.

"This test has already shown early usefulness for allowing us to monitor how different treatments affect the arthritic joints in people," Cook said. "With further validation, this test will allow doctors to adjust and fine tune treatments to individual patients. Also, being able to tell patients when they are at a high risk for developing arthritis will give doctors a strong motivational tool to convince patients to take preventive measures including appropriate exercise and diet change."

The biomarker test is currently available for licensing and is in the process of gaining FDA approval.

## FOBIAN CHOSEN AS AVMA PRESIDENT-ELECT

Dr. Clark K. Fobian of Sedalia, Mo. was unanimously elected president-elect of the American Veterinary Medical Association by the AVMA House of Delegates.

Fobian is a graduate of the University of Missouri where he earned a bachelor of science in wildlife biology in 1972 and his doctor of veterinary medicine degree in 1977.

Fobian's term as president of the AVMA will begin next summer.

"I'm proud and excited about being the president-elect of the AVMA. I come to this position from a practitioner's point of view, because that's who I am and that's who a significant number of our members are — they are practitioners. I respect all areas of the veterinary

profession, which includes regulatory veterinarians, members of academia, researchers, and food animal practitioners. I want to help ensure that the people who own and interact with animals receive excellent care from the veterinary profession," Fobian said. "I look to the AVMA mission statement for guidance."





## ***STENT OPENS PARTICIPATION IN CANCER RESEARCH***

Canine prostate cancer is an aggressive disease that commonly invades the bladder and urethra and can lead to urinary difficulties. Although researchers continue to make strides toward more effective treatments for this disease, the urinary complications caused by the cancer can create significant research challenges.

Sandra Axiak, DVM, ACVIM, an assistant professor of veterinary oncology at the University of Missouri College of Veterinary Medicine encountered such obstacles while enrolling subjects for a canine prostate cancer study using radioactive gold nanoparticles as a treatment. Many dogs that were otherwise good candidates for the study and that could potentially have benefited from the treatment

were ineligible due to urethral obstruction. It was essential that participants be able urinate on their own, without catheterization.

However, Axiak's colleague Deborah Fine, DVM, MS, associate professor of veterinary cardiology, stepped in to assist by providing a procedure that created the opportunity for the dogs to be eligible to be enrolled in the study.

The procedure involves inserting a urethral stent into the dogs. Fine's approach is a minimally invasive alternative to major surgery. It not only serves to ease urinary discomfort and improve the animal's quality of life, but by opening up the urethra dogs that previously were ineligible were given a second chance to participate in the study.

The intra-luminal stent that Fine uses in the procedure essentially functions as a tiny spring. She begins by injecting dye into the bladder and urethra to identify the location of the tumor and to map out the appropriate path for the stent placement. The stent is then inserted to cover a length of urethra that extends beyond the tumor.

Fine is believed to be the only veterinarian in Missouri offering this specific procedure.

Axiak's study aims to determine the safety and effectiveness of injecting radioactivity directly into the tumor, with the hope of decreasing side effects associated with radiation therapy while increasing overall tumor control. Enrollment is opened to qualified participants.

## **CVM ALUMNUS NAMED TO HALL OF FAME**

**H**al Jenkins, a 1962 graduate of the University of Missouri College of Veterinary Medicine, was recently inducted into the Arizona Hall of Fame for extraordinary dedication and commitment to the Arizona veterinary community and the veterinary profession.

Jenkins, of Tempe, Ariz., was owner and operator of Baseline Animal Clinic for 48 years. He graduated from MU in 1953 with a bachelor's

degree before going on to earn his DVM. Jenkins was active in the Central Arizona Veterinary Medical Association where he served as a director and held several officer positions, including president. He then went on to hold these same positions in the Arizona Veterinary Medical Association. He held the office of Western States Veterinary Medical Association president and also served on the organization's board for seven years. Jenkins was

the Arizona delegate to the American Veterinary Medical Association for eight years and served one term on the AVMA Judicial Council. In 1978, he was honored as Arizona Veterinarian of the Year.

Jenkins has attended several World Veterinary meetings as a delegate including meetings held in Australia, Austria, Romania, England and Tunisia, where he co-authored and presented a paper.



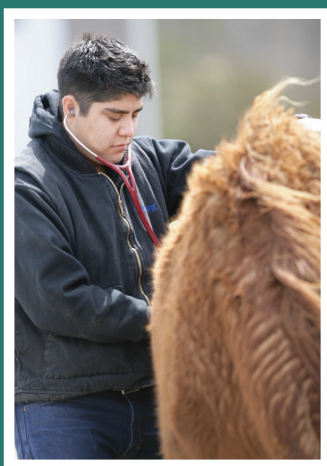


## CVM Alumnus Selected as AVMA Future Leader

Dr. Kelvin G. Urday, a 2011 graduate of the University of Missouri College of Veterinary Medicine, is one of 10 veterinarians selected to participate in the American Veterinary Medical Association's (AVMA) Future Leaders Program.

This year-long program, created by the AVMA and supported by Pfizer Animal Health, will help develop leadership skills in the selected group of volunteer leaders for the future of the AVMA and other veterinary groups. This is the second class of 10 Future Leaders involved in the program. They were selected from approximately 60 AVMA member nominees who had graduated from veterinary school within the last 15 years.

"This program appealed to me because of the opportunity to learn more about organized veterinary medicine as well as a chance to better my communications skills," Urday said. "I also saw this program as a prospect to join a network of progressive veterinary professionals. I hope that together we can develop a program that ben-



efits our constituents and shows our profession how beneficial organizations like the AVMA can be."

Urday is a mixed animal private practice veterinarian in Keller, Texas, and he has a long history in this style of practice. As a child in north Texas, he lived next door to a mixed animal veterinarian, where he volunteered and ultimately learned to love veterinary medicine. While at the CVM, Urday was active in the Missouri Veterinary Medical Association and also served as vice president of the Student Chapter of the American Veterinary Medical Association and president of the Student Chapter of the American Animal Hospital Association.

## LIBRARIANS TAKE ON NEW DUTIES

CVM Dean Neil C. Olson recently announced changes in the operation of the College's Zalk Veterinary Medical Library due to the consolidation of the veterinary and health sciences historical collections under way at the MU Libraries.



The collections will be curated by a librarian with an outstanding reputation for scholarship in the history of veterinary medicine. Trenton Boyd, longtime CVM librarian, has accepted the position as the distinguished librarian curator of medical and veterinary historical collections for the MU Libraries. Boyd is renowned for his scholarship in veterinary history and his long-term, visionary leadership in the field of veterinary librarianship at the national and international levels. The appointment is the culmination of 42 years of veterinary librarianship directing the operations of the veterinary library. In his new role, he highlights publications of historical interest related to veterinary and medical sciences housed in the MU Libraries, bringing visibility and scholarship to the veterinary and health sciences historical collection. His duties include curating the archives of the College of Veterinary Medicine. However, he continues to be available to respond to questions about the College's history.

Kate Anderson has assumed the role of interim head, at the Zalk Veterinary Medical Library, based on her seven years of successful service as specialized services librarian in the Health Sciences and Veterinary Medical Libraries. During the past two and a half years, Anderson has also served as the Mizzou Advantage liaison for the MU Libraries.



# REAR HITCH

## LABORATORY NAME HONORS CARSONS

University of Missouri Professor Emeritus Bill Carson, PhD, and his wife, Toni, were recently recognized for their influence in the growth and success of the University's Comparative Orthopaedic Laboratory. A room within the Veterinary Science Building that is part of the COL was named "The Bill and Toni Carson Biomechanics and Bioengineering Lab" in their honor.

The naming of the lab recognizes the Carsons' recent commitment of \$150,000 through an estate gift to the COL. However, the impact the Carsons have had on the research that takes place at the COL is far more extensive.

Dr. Carson was the first person at the University of Missouri, and one of the first in the world, to engage in translational research in orthopaedic biomechanics and bioengineering. Already a pioneer in human orthopaedic research, in particular the field of spinal stabilization, Carson worked with and generously mentored veterinary surgeons and residents as they worked on numerous projects. His willingness to give his time and talent is credited as being a key to the founding of MU's COL, which has grown into the foremost comparative and translational orthopaedic research laboratory in the world.

In requesting the naming honor, CVM Dean Neil C. Olson and Director of the COL and Professor of Small Animal Surgery James Cook noted that Carson has contributed to the growth and development of the COL through \$8 million received in extramural funding, \$2 million received in gifts and hundreds of presentations and publications.

Carson also coordinated the multi-department joint funding, corporate donations and logistics involved in



*Bill Carson receives a plaque commemorating the naming of the The Bill and Toni Carson Biomechanics and Bioengineering Lab. He is pictured with (from left) his wife, Toni, Director of the COL and Professor of Small Animal Surgery James Cook, and College of Veterinary Medicine Dean Neil C. Olson.*

purchasing, installing and using major equipment in the lab. His efforts helped foster the One Health/One Medicine collaboration between orthopaedic surgery, veterinary medicine and engineering at MU.

In addition to backing her husband in his research initiatives, Toni Carson has participated directly in the COL's fundraising efforts throughout the years and has been an avid MU supporter.

The announcement of the naming of the lab in the Carsons' honor was made during the annual Comparative Orthopaedics Day held at the Missouri Orthopaedic Institute.