Gary Savill and Barbara Stampfli-Savill, residents of St. Louis, have made an estate commitment of $2.5 million to the University of Missouri College of Veterinary Medicine. The gift will create an endowment to support scholarships for veterinary students and will encourage volunteer work among its recipients.

“We are thrilled to be able to give this gift to the College of Veterinary Medicine with the intent that it will support the development of future veterinarians for years to come,” Gary Savill said. “Barbara and I are animal lovers, and we hope this gift will help care for animals around the nation and the world by educating future classes of veterinarians. We also wish to enable students who otherwise would not be able to afford the education and training required to enter this noble profession. Another important aspect of this scholarship is volunteer work; we hope that students who receive this scholarship will be inspired to continue such charitable work throughout their careers.”

Barbara Stampfli-Savill and Gary Savill

The Stampfli-Savill endowment will provide one or more scholarships to cover 50 percent of all tuition and fees each year to students who demonstrate financial need. Preference will be shown to students from underrepresented ethnic groups. Students awarded scholarships from the endowment will be required to perform at least 120 hours of animal-related community and volunteer service each year.

“Providing a top-tier education for our students at an affordable cost is a priority for this university,” MU Chancellor R. Bowen Loftin said. “The Stampfli-Savills’ generous gift will help us further that cause. By helping MU train future leaders in the field of veterinary medicine, they will assist generations of students in achieving their academic and career aspirations as we continue to serve the needs of Missourians.”

The Stampfli-Savills, who had no prior affiliation with MU or the College of Veterinary Medicine, were inspired to give their gift to the college after reading about the philanthropy of other donors.

“We are grateful to Barbara and Gary for their generosity to the college and appreciate their desire to help increase diversity within the veterinary profession,” said Neil Olson, dean of the MU College of Veterinary Medicine. “Their additional aim of fostering community service is one we as a college also embrace.”

In addition to their $2.5 million gift, the Stampfli-Savills, who own and operate Silver Wraith Choppers LLC in St. Louis, donated a custom-built motorcycle to the College of Veterinary Medicine that was raffled as a part of the college’s annual Gentle Doctor Benefit.
Columbia-based angel investor group Centennial Investors recently announced a $230,000 investment into local biotech startup, Animal Health Specialties, based at the MU Life Sciences Incubator at Monsanto Place. The company is developing a platform drug to treat cachexia, which is the wasting of lean body mass often associated with cancer, in companion animals, as well as a drug to help eliminate the need for antibiotics for production animals.

Dr. Kenneth Gruber is the president and CEO of Tensive Controls Inc. and a faculty member at the University of Missouri. He founded Animal Health Specialties as a subsidiary of Tensive Controls Inc.

“Leveraging the resources of the University of Missouri has made a big difference in our ability to move forward,” Gruber said. “Combined with Centennial’s assistance, we hope to make a difference in the way infectious diseases are treated.”

Dr. Carolyn Henry, who works with Gruber at the MU College of Veterinary Medicine Department of Veterinary Medicine and Surgery, commented, “Dr. Gruber’s work and the effort to commercialize it represent a wonderful alliance with the University of Missouri. I really do believe we will do great things together.”

Centennial Investor member Greg Wolff is investment team leader, working as part of a group of approximately 30 private investors who are investing the $230,000 into Animal Health Specialties.

“We are pretty excited about the investment,” Wolff said. “Animal Health Specialties is working on what could be blockbuster drugs that will change everything for pet owners, farmers and others who need production animals; treating cachexia and helping to eliminate the need for antibiotics for these animals will change domesticated animal health as we know it.”

Centennial Investors reviews a wide range of deals each year, and members invest in a select few that they think will be great successes.

Recognitions and Honors

John Middleton, DVM, PhD, a professor of food animal medicine and surgery at the MU College of Veterinary Medicine, has been named the 2014 president of the National Mastitis Council. The council is a nonprofit organization devoted to reducing mastitis and enhancing milk quality. It promotes research and provides information to the dairy industry on udder health, milking management, milk quality and milk safety. Founded in 1961, the council now boasts members in more than 40 countries.

Leona Rubin, PhD, who had served as interim dean of the graduate school, has been named associate vice chancellor for graduate studies and graduate education at the UM System. As associate vice chancellor for graduate studies, Rubin will continue to manage and promote graduate education at MU. In her role as associate vice president for academic affairs and graduate education at the UM System, Rubin will collaborate with the UM System Office of Academic Affairs. Rubin joined the University of Missouri in 1989 as a professor in the Department of Biomedical Sciences in the College of Veterinary Medicine.

Stephanie Gilliam, RVT, BS, CCRP, VTS (Neurology), a senior veterinary...
Honors, continued

A technician in neurology/neurosurgery and small animal physical rehabilitation, has been named the February MU Service Champion by the MU Staff Advisory Council. The monthly campuswide award honors staff members who possess an exceptional work ethic and attitude and embody MU’s four core values, respect, responsibility, discovery and excellence. Gilliam has worked at the MU Veterinary Medical Teaching Hospital for seven years.

Jessica Knapp, DVM, a second-year resident in small animal surgery at the MU College of Veterinary Medicine, received a 2014 Mark S. Bloomberg Memorial Resident Research Award for her research abstract “Classification of Antebrachial Limb Deformities: A Retrospective Review of 101 Limbs from 2006-2013.” The award allowed Knapp to travel to the 2014 World Veterinary Orthopaedic Congress in March to present her work, which was co-authored by Derek Fox, DVM, PhD, an assistant professor of small animal orthopedic surgery.

Pam Thorne, research assistant and laboratory manager in the MU College of Veterinary Medicine Department of Biomedical Sciences, has been selected for induction into MU’s Gamma Eta chapter of Delta Omega, the honorary society in

FASTER ANTHRAX TESTS COULD SPEED BIOTERROR RESPONSE, REDUCE COSTS

Shortly following the 9/11 terror attack in 2001, letters containing anthrax spores were mailed to news outlets and government buildings, killing five people and infecting 17 others. According to a 2012 report, the bioterrorism event cost $3.2 million in cleanup and decontamination. At the time, there was no testing system to screen the letters. Currently, first responders have tests that can provide a screen for dangerous materials in about 24-48 hours. MU researchers have worked with a private company to develop a new method for anthrax detection that can identify anthrax in a few hours.

“Normally to identify whether an organism is present, you have to extract the material, culture it, and then pick colonies to examine that might turn out to be anthrax bacteria,” said George Stewart, a medical bacteriologist at MU’s Bond Life Sciences Center and chairman of the Department of Veterinary Pathobiology and McKee Endowed Professor within the MU College of Veterinary Medicine. “Then you conduct chemical testing which takes some time—a minimum of 24 to 48 hours. Using this newly-identified method, we can reduce that time to about five hours.”

Using a virus known as a “bioluminescent reporter phage,” Stewart and graduate student, Krista Spreng, tested the phage at the MU Laboratory for Infectious Disease Research. The phage, developed by David Schofield at Guild BioSciences, a biotech company in Charleston, S.C., is injected in the sample causing anthrax to glow if present. The team also found that the method can detect low levels of anthrax bacteria and rule out false positives. The added benefit is showing if anthrax is present and whether the spores are alive, Stewart said.

The next step will be to get the bioluminescent reporter phage approved by federal regulatory agencies so a product can be produced and distributed.

The research, “Bacillus anthracis diagnostic detection and rapid antibiotic susceptibility determination using ‘bioluminescent’ reporter phage,” was funded by the USDA and published in the Journal of Microbiological Methods.

Continued on page 4
public health. Members are selected for outstanding scholarly achievement and dedication to public health. Thorne is pursuing a master's degree in public health at MU.

Kenton Hoernig, a second-year student at the MU College of Veterinary Medicine, wrote an article that was featured in the February 2014 issue of M-2 Magazine, a Belgian publication that focuses on mastitis and milk quality and serves dairy professionals. The article is a summary of Hoernig's master's thesis. Hoernig earned his bachelor's degree in animal science from MU. He went on to complete a master's degree under the guidance of Dr. John Middleton.

David Moore, DVM ‘74, of Kirksville was named 2013 Missouri Livestock Person of the Year by the Missouri Livestock Symposium. He was inducted into the symposium's hall of fame in December. The award honors livestock or forage leaders from northeast Missouri who have made significant contributions to the progress and well-being of the livestock industry. Moore received his bachelor's degree in biology at Northeast Missouri State University, now Truman State University. After he completed his doctor of veterinary medicine degree at the University of Missouri, he practiced in Illinois for a year before opening a mixed animal practice in Kirksville.

Honors, continued

Looking at Louie today, it’s hard to imagine he was ever anything but a healthy dog. But just a few months ago, his future looked grim. The 1-year-old Great Dane had developed bone deposits in his temporomandibular joint. Called craniomandibular osteopathy (CMO), the rare, non-cancerous bony proliferation was a serious problem. It fused his jaw shut, causing pain and making it very difficult for him to eat. Unable to afford the costs of further treatment, his owners decided euthanasia was the only option.

Nicole Berlin, a second-year veterinary student at the MU College of Veterinary Medicine, heard about Louie from another student and hoped she could save him. She persuaded his owners to relinquish him. Because she had three dogs

Continued on page 5
already, she couldn’t keep Louie herself, but she decided to foster him until she could find him a permanent home.

When Berlin introduced fellow second-year Brittany Hofman to Louie, it was love at first sight. “I’ve wanted a Great Dane since I was a little girl,” Hofman said. “You can’t help but fall in love with him.” Nicknamed “King Louie the Great,” the dog was underweight from malnutrition due to his difficulty eating. His food had to be ground up in a blender and mixed with water so he could more easily suck it up.

Louie’s bony proliferations were advanced, which ruled out more commonly used methods of supportive care. The biggest concern was keeping up with the nutritional requirements of a Great Dane. CMO more frequently occurs in terrier breeds, such as Westies and Scotties. “We don’t see it often in general, but especially not in Great Danes,” said Mirae Wood, DVM, assistant teaching professor of small animal surgery.

Hofman and Berlin contacted Derek Fox, DVM, PhD, associate professor of small animal orthopedic surgery. Fox wasn’t optimistic about Louie’s prognosis initially due to the extensiveness of the bony fusion of the two components of the jaw. But the students persisted and persuaded Fox and Wood to consider surgical treatment.

Louie’s doctors used a computed tomography (CT) scan to evaluate Louie’s bony proliferations and determine how best to proceed. The CT scan revealed that the component of the jaw that acts like a hinge had become completely fused with new bone production as part of the disease.

Removal of this excessive bone would allow mobility of the jaw, in theory, but would be very risky and invasive. Therefore Wood and Fox considered alternative techniques and decided to approach the problem from a different angle. Instead of removing the bony fusion, they decided to widen the opening of the front of his mouth by removing a portion of the jaw that makes up his chin. This wider opening would allow Louie to extend his tongue out of his mouth and, in time, learn to funnel food and water using his lips and tongue. Although he still would not be able to open his mouth, at least he would be able to eat and drink unassisted if he could adapt to the new method after the surgery.

Removal of this excessive bone would allow mobility of the jaw, in theory, but would be very risky and invasive. Therefore Wood and Fox considered alternative techniques and decided to approach the problem from a different angle. Instead of removing the bony fusion, they decided to widen the opening of the front of his mouth by removing a portion of the jaw that makes up his chin. This wider opening would allow Louie to extend his tongue out of his mouth and, in time, learn to funnel food and water using his lips and tongue. Although he still would not be able to open his mouth, at least he would be able to eat and drink unassisted if he could adapt to the new method after the surgery.

The case was unique, Wood said, and only one similar surgery with a successful outcome has been documented. Neither Fox nor Wood had ever attempted this in a dog with his condition.

During the surgery, Louie’s doctors also added a feeding tube to his stomach to help him get the nutrition he desperately needed. Amazingly, Wood said, Louie didn’t have any complications from the surgery. He was eating the next day, and his feeding tube was removed in less than three weeks.

Besides the lifesaving care Louie received, the experience provided an educational opportunity for Berlin and Hofman. The students got to watch the surgery, which offered them a glimpse at the clinical instruction they will begin in their third year and made them less nervous about Louie’s fate, they said. “While we were in there I felt at ease because I knew he was in great hands,” Hofman said. “I was able to see the care and precision of the doctors. It was as if they were treating their own pet.”

Since his surgery in late December, Louie has gained 40 pounds. “After the surgery he had to relearn how to use his tongue, but he figured it out quickly and shows his gratitude by giving kisses through his ‘tongue hole,’” Hofman said. “He had a quick and smooth recovery and acts like any normal 1-year-old Great Dane now. Louie loves treats, toys and following his mom around the house. He is extremely loyal, loves to cuddle and despite his size often thinks he’s a lap dog.”

Louie’s care was paid for by the Silent Partners Fund. The fund was established to assist pets that have a good chance of recovery, but whose owners lack the financial resources to pay for the care needed to save their animals’ lives.
Karen Young believes in doing anything she can to care for her pets — even if that means driving 2,000 miles for treatment. Recently, Young, her brother-in-law, Ron Lehman, and Young’s dogs, Tartufo and Milagros, traveled from Mountain View, Calif., to treat Tartufo’s cancer at the University of Missouri Veterinary Medical Teaching Hospital.

Tartufo, or Tufo, as Young calls her 9-year-old mixed-breed dog, initially had his apocrine gland anal sac adenocarcinoma removed surgically in December 2012. When the cancer returned in October 2013, Young and her veterinarian decided to get a second opinion from Dr. Jeffrey Bryan, associate professor of oncology at the MU College of Veterinary Medicine. Bryan had been Young’s veterinarian several years earlier when he lived in California and also had been a classmate of her current veterinarian, Dr. Jenny Taylor. In addition, Bryan had a good record of success treating aggressive cancers like Tufo’s, Lehman said.

Bryan and Taylor recommended radiation treatment for Tufo, and though Young initially feared it would be too hard on her dog, discussions with both doctors made her confident it was the right decision.

Next Young had to pick a veterinary hospital for Tufo’s radiation. Her previous history with Bryan, plus his experience treating cancer, led to her decision to make the trek to Columbia.

Young said she wasn’t familiar with any of the veterinarians at the nearest veterinary hospital and wanted Tufo to be treated by someone she knew would provide outstanding care.

“A personal relationship with a vet is really important,” Young said. “I just felt more comfortable with somebody I knew.”

Tufo’s cancer was surgically removed in California in November, and after a four-day drive the group arrived in Columbia to meet with Bryan and tour the VMTH.

“We were incredibly impressed with the facility,” Lehman said. “The advanced technology is impressive. They’re doing really great things here.”

Lehman said the presence of veterinary students was a benefit. Students ask interesting questions, he said, which can lead to innovation.

Tufo received 18 daily treatments using the VMTH’s new linear accelerator. The machine allows veterinarians to tailor radiation to the tumor’s shape and depth, thus minimizing harm to surrounding tissue. Bryan said veterinarians generally aim for a “magic window” of three to five weeks of radiation treatment.

“Typically we want to spread it out because it’s more effective at killing the tumor while minimizing side effects,” he said.
Technology like the linear accelerator has greatly improved cancer treatment. Although 10 years ago he would have been skeptical that Tufo’s cancer could be treated safely and effectively, Bryan said, the treatment went very well. Tufo experienced only moderate skin side effects and had almost no side effects in concerning organs such as his colon.

Bryan said he expected Tufo would need no further treatment for at least two years, whereas the tumor probably would have recurred within a couple months without the radiation.

He said anal sac tumors can cause severe problems because they grow in an area where space is limited and can prevent the dog from being able to eliminate urine and feces. Many dogs don’t receive the treatments they could get for these tumors, which tend to respond well to surgery and radiation therapy, Bryan said.

Although Bryan admitted it’s unusual for a client to travel so far, he said he knew the VMTH could provide Young both excellent care and communication. “They wanted the best for this dog,” he said. “It’s always an honor to provide our very best for our patients. I knew that the team here could provide the care and communication that Tufo and Karen needed.”

In an email Young sent recently to Bryan and Taylor, her California veterinarian, she praised the care. “Thank you both for making it possible for us to look forward to a cancer-free future,” she wrote. “As I told Dr. Jenny yesterday, the memories of Tufo’s suffering are already receding as he heals and we are left with the good memories of feeling very safe and totally supported while he underwent his baptism by fire.”

“I think a large part of my being able to go through with it was the complete confidence I have in Dr. Bryan,” Young said. “I think that if it had been at another facility where I didn’t have such good communication, I might have given up when the going got tough, but I am so glad I didn’t.”

**Linear Accelerator Improves Cancer Care**

Tufo received 18 treatments using the MU Veterinary Medical Teaching Hospital’s new linear accelerator, a powerful tool in the fight against cancer. The machine, a remanufactured model that came from a hospital that treats humans, is the most advanced veterinary radiation therapy system in the Midwest, said Dr. Jimmy Lattimer, associate professor of veterinary medicine and surgery.

“Like anything, it’s not 100 percent (effective),” he said. “But even for human medicine it would be considered pretty much state-of-the-art.”

Before beginning radiation, CT scans and sophisticated new software allow faculty and residents to create a 3D representation of the tumor that helps identify the best angles of approach. The linear accelerator then targets tumors with a beam of radiation tailored specifically to the tumor’s shape and depth. The ability to fine-tune the radiation dose means less normal tissue is irradiated and surrounding organs are avoided.

Although the hospital previously had a linear accelerator, this newer model allows veterinarians to more accurately and quickly target tumors. “It’s a safer machine, it’s more accurate and it’s more flexible than the old machine was,” Lattimer said. “We can shape the beam much more delicately than before, and it allows us to do the treatments much more quickly.”

In addition, because less radiation is applied to the surface of the animal, it is less harmful to its skin. Veterinarians at the teaching hospital are using the linear accelerator primarily to treat dogs and cats with cancer that can’t be remediated by surgical or medical means.

Radiology technician Jeff March said the effects of the linear accelerator on patients with brain tumors can be remarkable to watch.
The John W. Connaway Society held its annual social Saturday, April 5, prior to the Gentle Doctor Benefit. The Connaway Society was formed to encourage private participation in the support and development of the College of Veterinary Medicine.

Members enjoyed cheese, fruit, wine and other beverages during a reception at the Holiday Inn Executive Center in Columbia. College of Veterinary Medicine Dean Neil C. Olson addressed the donors to the College before introducing guest speaker MU Chancellor R. Bowen Loftin.

Dr. Olson recounted information about the organization’s namesake and the early history of comparative medicine at Mizzou. Although he taught veterinary medicine for many years, John Connaway held a doctorate in comparative medicine from the Chicago Veterinary College and an MD from the University of Missouri in 1891. Connaway had intended to pursue a career in human medicine, but he diverted from his planned career path on the advice of a mentor who advised him that farmers would be more willing to pay for treating their horses or cows than their sick wife or children.

Dr. Loftin discussed the importance of comparative medicine and how the resources available at Mizzou, with its College of Veterinary Medicine, School of Medicine and College of Agriculture, Food and Natural Resources, position the University to accelerate discovery within the One Health discipline.

“We are linked together inseparably with the health of plants and the health of animals, as humans,” he said. He also talked about MU’s Comparative Oncology Program and the recent partnership between the University’s Ellis Fischel Cancer Center and Houston, Texas-based MD Anderson Cancer Network, which makes Mizzou the only academic medical center in the country affiliated with MD Anderson.

Loftin predicted that the next advances in human health will be made at an institution like MU, which is in a position to chart the course. “This is an exciting moment, folks. We are watching a birthing,” he said.

Following the reception, Connaway Society members had the opportunity to preview Gentle Doctor Benefit auction items.
Chance Lawrence, a 6-year-old black Labrador-mix has a choice of dog houses. There is the dog house in the yard at his Springfield, Mo., home, and there is an insulated dog house within the garage. Chance opted for the warmer indoor option on a cold Sunday night in early February. The following morning, Debbie Lawrence went out to the garage to let Chance out and to feed him. He returned to the garage as Lawrence readied to leave for her job with the Springfield Fire Department. She believed he was still tucked into his dog house as she left for work. A short time later her husband, Hosea, a retired firefighter, left the house for a medical appointment. When he returned, he went to check on Chance, but the dog was nowhere to be found.

Hosea Lawrence got back into his truck and began searching his south Springfield neighborhood for his dog. He called his wife, who left work and joined him looking for Chance. They enlisted the help of neighbors, friends and the mail carrier, but there was no sign of the missing dog.

The Lawrences suspect that when Debbie Lawrence backed her vehicle out of the garage earlier that morning, Chance took the opportunity to sneak out. He didn’t have to travel far before he found himself on a busy freeway. A motorist reported seeing a car slam on its brakes to avoid hitting Chance. The frightened dog then ran in front of another car. In what was an apparent attempt to escape the traffic, he jumped over a concrete wall that runs alongside the freeway. Unfortunately, he was on a bridge and the only thing on the other side of that concrete barrier was a two-story fall to the road below.

The driver of a passing school bus spotted the falling dog and braked sharply. A couple in the car behind swerved to avoid a collision with the bus and saw Chance hit the pavement. They picked up the injured and bleeding animal and trans-
transported him to the Springfield Veterinary Center.

The Lawrences, unaware of what had happened, continued to scour their neighborhood for their missing dog. While they searched, Debbie Lawrence spoke with a woman she didn’t know who was walking in the area and asked her to please call Hosea’s cell phone if she happened to encounter Chance. As it turned out that encounter was a fortunate one. Shortly after 5 p.m., the stranger called Hosea and told him that she had seen a report on a local television news station about a dog falling from an overpass that matched the description of Chance. The Lawrences called the television station to find out where the dog had been taken.

“We went to the wrong veterinary office at first,” Debbie Lawrence recalled. “The correct vet closed at 5:30 and we got there shortly after that, so we banged on the door and thankfully, they heard us and let us in.”

Dr. Cynthia Wiseman had taken care of Chance at the Springfield Veterinary Medical Teaching Hospital. As a snowstorm shut down the university and much of mid-Missouri for two days, Wiseman and Kerl, a small animal emergency and critical care veterinarian, consulted via email and telephone, reviewing radiographs and videos of the injured dog. Kerl consulted with the orthopedic and radiology faculty in the VMTH to analyze Chance’s videos and radiographs and determine the best course of treatment.

On Feb. 6, three days after his fall, Chance’s family picked him up from the Springfield Veterinary Center and brought him to the VMTH. Dr. James Tomlinson, a professor of veterinary orthopedic surgery, determined that Chance had injured the complex set of ligaments in both carpal joints of his front legs rendering them unstable and unable to support his weight. Tomlinson said the injury probably occurred when Chance landed from his fall from the bridge.

Repairing Chance’s injured legs required surgery over two days. During the first two-and-a-half hour operation, Tomlinson, assisted by surgery resident Dr. Ryan McCally, placed a bone plate in Chance’s right forelimb to fuse the damaged joint. They performed the same procedure on the dog’s left leg a few days later. Tomlinson said scheduling the surgeries over two days was preferred to avoid having Chance under anesthesia for nearly six hours.

After each surgery Chance’s legs were each placed in a cast, which provided additional support while the bones heal. Although they are awkward, he quickly adapted to walking with the casts.

After hearing Chance’s story, a representative from SECUROS, the company that manufactures the arthrodesis bone plates, provided the implants for Chance at no charge.

The Lawrences had to return to Springfield after Chance’s first surgery. Hosea Lawrence said they were grateful for the ongoing contact that they received from MU CVM student Bryan Davidson, who was assigned to Chance’s case. “He has stayed with us on the phone the whole time. He would call with updates two to three times a day.”

By Valentine’s Day, Chance was able to bear weight on both of his front legs and was ready to return home with his family. He will need to remain in the casts for about six weeks while the carpal joints fuse. It is hoped that additional X-rays at that time will confirm healing adequate enough to allow the casts to be removed, and for him to begin using his legs unassisted once more. His veterinarians expect that Chance will be able to walk, run and play once the healing is complete in several months’ time.

Chance, continued
CVM WELCOMES VISITORS TO OPEN HOUSE

Scenes from the University of Missouri College of Veterinary Medicine’s annual Open House held April 12.