

Spring/Summer 2015

TRACKS

Magazine of the Virginia-Maryland College of Veterinary Medicine

Dr. Claire Simeone:
From guinea pigs
to fur seals

Dr. Bess Pierce wins
national veterinary honor

Disease fighters

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Harbor seal patient Bogey gets a check-up at The Marine Mammal Center. **Photo by:** Ingrid Overgard

TRACKS Spring/Summer 2015

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TRACKS magazine is published bi-annually. We also send monthly updates to our alumni, students, faculty, staff, donors, and friends via our popular e-newsletter, *Vital Signs*.

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Dean Clarke and his golden retriever, Dudley

Message from the Dean

This academic year has presented the Virginia-Maryland College of Veterinary Medicine with many reasons to be proud. Recently, we learned that we have been reaccredited by the American Veterinary Medical Association’s Council on Education for up to seven years — the maximum period possible. The COE’s faith in our veterinary program not only affirms the quality and rigor of the education our students receive, but also reflects the hard work of our community members to achieve this milestone.

In this second edition of *TRACKS* magazine, we highlight numerous examples of hard work. You will read about an alumna helping distressed marine life, a faculty member advancing the human-animal bond, college researchers’ historic role in fighting a common zoonotic disease, students succeeding inside and outside of the classroom, and hospital staff helping animals in need.

Others are also taking note of the upper trajectory that the college is on. You’ll see that we attracted the second largest applicant pool in North America. Our DVM Class of 2019 will represent 18 states, along with Ontario and Nassau. Here’s to another great year for the college!

Cybil Clarke

College attracts second largest applicant pool in North America

When members of the Class of 2019 start their veterinary education in August, they will have already made it through a highly competitive application period.

More than 1,200 individuals applied to begin studies at the veterinary college this fall, representing the second largest applicant pool in North America, according to figures from the Association of American Veterinary Medical Colleges. In January, the college invited 312 applicants to complete campus interviews for 120 available seats at the college.

“These individuals rose to the top of a highly competitive application process,” said Dr. Jacque Pelzer, director of admissions and student services.

In recent years, the college has accepted approximately 40 percent of those interviewed into its Doctor of Veterinary Medicine program and its popularity as a “college of choice” has continued to increase.



Stamps Fellows meet with Virginia Tech president

This spring, the veterinary college’s Stamps Fellows met with Virginia Tech President Timothy D. Sands to discuss their work and the opportunities and experiences provided to them through support from the Stamps Family Charitable Foundation.

The Stamps Family Charitable Foundation has donated more than \$1 million dollars to support graduate students in the college’s Biomedical and Veterinary Sciences program. Front row, left to right: Kaylyn Williams, Qian Cao, President Timothy Sands, Dr. Marigold Ernst, Anne Nichols. Back row, left to right: Dr. Miranda Vieson, Cat Cowan, Dr. Jeffrey Alexander, Xiaofeng Liao, and Kelly Freudenberger.

Excluding Virginia and Maryland, **TOP 5 Applicant States:**

PA NJ CA NY FL

We even received international applications from Canada, China, Guam, and Puerto Rico!





Photo by: Justin Sullivan
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DR. CLAIRE SIMEONE: From GUINEA PIGS to FUR SEALS

Written by: Sherrie Whaley



Dr. Claire Simeone's life story thus far would make a fascinating documentary.

It would start with the 2011 alumna's early days in Bethesda, Maryland, where she grew up with an environmentalist father. This would explain her lifelong interest in wildlife, environmental conservation, and policy.

The film would show her early love of science and animals, especially horses—at least until the day she was riding and the horse ran off and threw her into a tree. She decided guinea pigs might be a safer choice, which would explain her lifelong love of the personable and communicative rodent.

We would follow her to Scotland where she took coursework in molecular biology at the University of St. Andrews, before returning to the University of Maryland to complete a bachelor's degree in physiology and neurobiology. We would also see her working as a veterinary technician at Maryland's Silver Spring Animal Hospital during her undergraduate years.

Finally, she would enter veterinary school at the Virginia-Maryland College of Veterinary Medicine where she thought small animal oncology or surgery would be her path. "Once I realized there were actually jobs that existed in wildlife, I really turned to that passion," she explained. She elected to follow the public/corporate track and sought out summer externships to help solidify her goal.



Far Left (l-r): Veterinary tech intern Ben Calvert, Dr. Claire Simeone and vet tech Lauren Campbell inspect the eye of a sick and malnourished sea lion pup at The Marine Mammal Center. **Above:** Northern elephant seal Fortissima stayed at The Marine Mammal Center for four months after being found alone on a beach at less than a month old. **Right:** Conservation medicine veterinarian Claire Simeone cleans a neck wound on Socks, a California sea lion rehabilitating at The Marine Mammal Center after being entangled in fishing line.

“During the summers I did programs like Envirovet Summer Institute, and externships at places like the San Diego Zoo or a marine research station in St. Barthelemy, working under mentors I met during my time in vet school,” she shared.

After a rotating small animal internship, she landed a one-year joint internship between SeaWorld San Diego and San Diego’s National Marine Mammal Foundation. Her responsibilities included

caring for SeaWorld’s extensive marine mammal and avian population, and the Navy Marine Mammal Program’s bottlenose dolphins and sea lions. “I really credit my marine mammal internships for solidifying the direction that my career has gone,” the 30-year-old said.



Illustration: California sea lion Notebook was treated for malnutrition at The Marine Mammal Center.

That would bring us to today and Simeone’s current position as conservation medicine veterinarian at The Marine Mammal Center in Sausalito, California. She studies the health of marine mammals across the country and is also the first researcher to ever study pain medication for dolphins.

“I’m actually assigned to The Marine Mammal Center by the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NMFS), my primary employer. I work with both groups and my job is to utilize my skills as a veterinarian to solve conservation issues for marine mammals,” she explained. “This may mean treating endangered species in which each animal is critical to the survival of the population, or understanding the ways that Congress can influence policy to better protect marine mammals and the ecosystems in which they live.”

She travels frequently with her work at NMFS. “In the spring, I may travel two or three weeks each month providing veterinary support for marine mammal

field projects around the country. I also participate in a variety of conferences and workshops on marine mammal health,” she noted.

What Simeone likes best about her job is its unpredictability. “Every day is totally different. I may be treating sea lions at the hospital in Sausalito, or I may be sedating seals in the field in Alaska, or I may be attending a workshop to centralize marine mammal health data in Washington, D.C. I love that I’m constantly learning, and I’m lucky to work with incredibly dedicated staff and volunteers throughout the country.”

Much of her time in 2015 has been devoted to saving starving sea lion pups. The pups are going hungry because unusually warm water along the Pacific coast has made it more difficult for their mothers to find food. “We typically rescue 700 animals per year, but this year we’ve rescued 1,200 marine mammals in the first four months alone – and a majority have been sea lion pups,” she said. “They are thin, lethargic, and often have secondary issues such as pneumonia or gastroenteritis.”



The Marine Mammal Center has about 700 miles of California coast that they respond to. They encounter everything from whales and dolphins to seals and sea lions. If the animal has died, Simeone performs a necropsy to learn as much as possible and possibly prevent another animal from dying in the future.

She also coordinates the International Veterinary In-Residence program, designed to train marine mammal veterinarians in the rescue, medicine, anesthesia, and necropsy of

There have been many memorable moments in Simeone's career, but the field work stands out in her mind. "It's great to be able to study animals in the wild and to be able to help them at the same time," she said. She recalls once rescuing an elephant seal who had a toilet seat stuck on its neck. Another time she found herself anesthetizing a polar bear—the most dangerous animal she has worked with.

And Simeone's favorite marine mammal? "That would have to be the northern fur

"The starving sea lion pups are giving us a very clear sign that ocean conditions are changing. As sentinels for ocean health, the knowledge we gain from the rehabilitation process helps to inform science and shift environmental policy."

So how would the documentary end? The final frame would dissolve into the words "to be continued." It's apparent that



marine mammals. In addition, she provides veterinary support for The Marine Mammal Center's new Hawaiian monk seal hospital in Kona, Hawaii, designed to save this critically endangered species.

Well-spoken and accessible, Simeone has become something of a media darling. In late 2014, she appeared on NPR's live show *You're The Expert* where she held her own with three comedians. In March of this year, she appeared on *CBS Evening News* talking about the starving sea lion pups, and in April she was quoted in *U.S. News and World Report*. "I knew that working with the media was an important way to inform the public, but I didn't realize I'd be quite so involved," she admitted. "I really enjoy working with the media because it is one of the greatest platforms that we have to get our message across, and to shape that message to focus on the science, the medicine, and the big picture."

seal, because they are so full of personality. As pups they're about the size of a small cat, and they're incredibly graceful in the water, but mess with them on land and they will try to rip your ankles off."

Research is also an important part of Simeone's work. She currently collaborates with researchers nationwide on more than 40 projects. For example, she has grants to investigate new treatments for corneal ulcers in pinnipeds (fin-footed mammals), specifically in the context of an oil spill. She also works with the International Whaling Commission on its Cetacean (whales, dolphins, and porpoises) Emerging and Resurging Diseases working group.

In many ways, marine mammals are similar to the canary in the coal mines, explained Simeone. "They are sentinel species and a lot of what affects them, affects us," she noted.

Left: Claire Simeone examines a stranded dolphin calf in San Diego during her SeaWorld internship. **Photo by:** SeaWorld San Diego. **Top:** Claire Simeone, conservation medicine veterinarian at The Marine Mammal Center, performs a necropsy on a bottlenose dolphin during the morbillivirus Unusual Mortality Event in Virginia Beach, VA. **Photo by:** Virginia Aquarium.

Simeone is just getting started. In 10 years, she sees herself shaping marine mammal health, not just from a medical and research side, but from a policy and communication side as well.

She explained, "I have a responsibility to share the science and knowledge I have gathered on a wider scale, so that the public truly understands how important marine mammals are to understanding human health, and the health of our oceans."

Dr. Bess Pierce wins TOP veterinary honor

Award recognizes human-animal bond work

Dr. Bess Pierce, associate professor in the Department of Population Health Sciences, has earned the highest veterinary honor in the nation for work in the human-animal bond.

The American Veterinary Medical Association presented Pierce with the 2015 Bustad Companion Animal Veterinarian of the Year Award. The award recognizes a veterinarian's work in preserving and protecting human-animal relationships through practice, community service, teaching, or research.

"She is a true leader and philanthropist who has made significant contributions to the human-animal bond area in veterinary medicine," noted Dr. Zenithson Ng, clinical assistant professor of community practice, University of Tennessee College of Veterinary Medicine.

Under Pierce's supervision, Ng completed a residency in the teaching hospital's Small Animal Community Practice. Pierce developed the residency program with a combined master's degree in human-animal bond studies with the hope of adding to the growing body of evidence on human-animal bond benefits.

“

She is a true community leader and philanthropist who has made significant contributions to the area of the human-animal bond in veterinary medicine. ”



"Dr. Pierce has a passion for studying and developing the human-animal interface," said Dr. Greg Daniel, professor and head of the Department of Small Animal Clinical Sciences. "I suspect this comes from her years in the military in which the relationship between a soldier and working dog can mean the difference between life and death."

Pierce spent more than 15 years on active duty as a member of the U.S. Army Veterinary Corps, which is responsible for veterinary care and conditioning of working dogs across all military branches. She is now one of the highest-ranking veterinarians in Europe with the U.S. Army Veterinary Reserve.

In January 2015, Pierce joined the college's Center for Public and Corporate Veterinary Medicine, which trains veterinary students for fields outside of traditional private practice. She teaches courses, coordinates senior veterinary clerkships, assists with the center's international activities, and continues to serve as director of the college's Center for Animal Human Relationships.

Since joining the college in 2007, Pierce has advanced a number of programs related to the human-animal bond. She introduced Delaware, a black Labrador, as the college's first in-house therapy dog, founded Virginia Tech Helping PAWS (Pet-Assisted Wellness Service), which takes therapy dogs to schools, libraries, and nursing homes, and brings animal-assisted therapy to Virginia Tech's Cook Counseling Center and Women's Center.

Pierce also serves on the board of Saint Francis Service Dogs in Roanoke, Virginia, and is spearheading a new college puppy-raising program with them.



Disease fighters

Researchers' historic and present day efforts to stop the most common zoonotic disease in the world

Virginia-Maryland College of Veterinary Medicine researchers have made their mark in the history books with their decades-long efforts to eradicate brucellosis, a disease that causes spontaneous abortions in cattle and an inconsistent and sometimes fatal fever in humans. Starting with early successes in vaccine development, faculty members are undisputed leaders in brucellosis research and outreach.

Former dean Dr. Gerhardt Schurig, professor of immunology in the Department of Biomedical Sciences and Pathobiology, began developing an improved brucellosis vaccine when he arrived in Blacksburg in the late 1970s.

"I began to assemble a team to work on a new vaccine," Schurig said. "This was based on a *Brucella abortus* mutant I had identified in my new Virginia Tech laboratory and called the vaccine RB-51."

In 1984, Schurig lobbied two other faculty members to join the collaboration: Stephen Boyle, now professor emeritus of microbiology, and Dr. Nammalwar "Nathan" Sriranganathan, professor of microbiology. The team began exploring the RB-51 alternative against the existing brucellosis vaccine called "strain 19." Although strain 19 effectively prevented *Brucella abortus* infections in cattle, vaccinated cattle also tested false positive for brucellosis.

According to Boyle, the new vaccine had one "outstanding characteristic." It did not generate the antibodies leading to the earlier vaccine's false positives. After years of testing and analyzing, the RB-51 vaccine was deemed safe and effective in cattle.

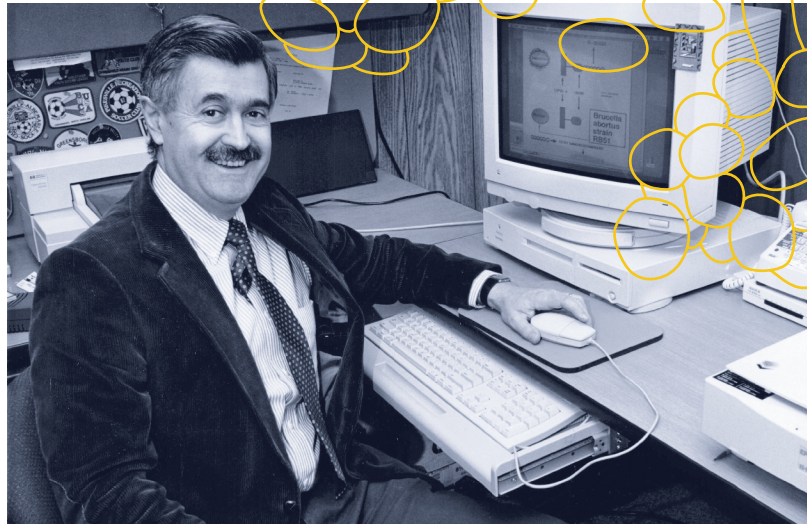
"The U.S. Department of Agriculture gave a provisional license in 1996," Boyle recalled. "After five years of testing in the field, it received a full license in 2001. It's now the primary brucellosis vaccine in the United States and many other countries."

In fact, production of the earlier vaccine ceased and remaining stocks were used up. "Brucellosis has been virtually eradicated among cattle in the United States," Schurig said. "There are isolated outbreaks around Yellowstone National Park where cattle are sharing feeding grounds with wild bison, deer, and elk."

New frontiers

Today, veterinary researchers are continuing to fight brucellosis. "Current research involves turning a cattle vaccine to prevent brucellosis into a platform for second-generation vaccines for other diseases, such as tuberculosis and paratuberculosis," said Sriranganathan, director of the college's Center for Molecular Medicine and Infectious Diseases.

One of his former graduate students, Hamzeh Al Qublan, introduced genes into the RB-51 vaccine that protect mice against both brucellosis and tuberculosis. "Where brucellosis is a big problem in the developing world today, tuberculosis is an even bigger problem," Sriranganathan explained.



Above: In this 1980s photo, Dr. Gerhardt Schurig, professor of immunology in the Department of Biomedical Sciences and Pathobiology, displays a computer model of his brucellosis vaccine. **Middle:** Clay Caswell (left), assistant professor of bacteriology, seeks to better understand brucellosis with Ph.D. students James Budnick (center) and Lauren Sheehan (right). Stephen Boyle, professor emeritus of microbiology, continues to work in the laboratory to create second-generation vaccines. **Bottom right:** A typical scene in southern India.

Although much of the college's efforts focus on vaccines, some of them take a different approach. Clay Caswell, assistant professor of bacteriology, is seeking to better understand the molecular basis for *Brucella* infection.

"*Brucella* lives inside a host immune cell called a macrophage," said Caswell, who is studying how two small regulatory RNAs allow the bacterium to survive there. "The paradox is that it's living inside the very cell that's trying to destroy it."

Caswell recently received a three-year, \$308,000 American Heart Association grant to conduct the basic science needed to develop treatments for infected humans. The disease can cause undulant fever and other symptoms in humans who are exposed through unpasteurized milk and cheeses or other means.

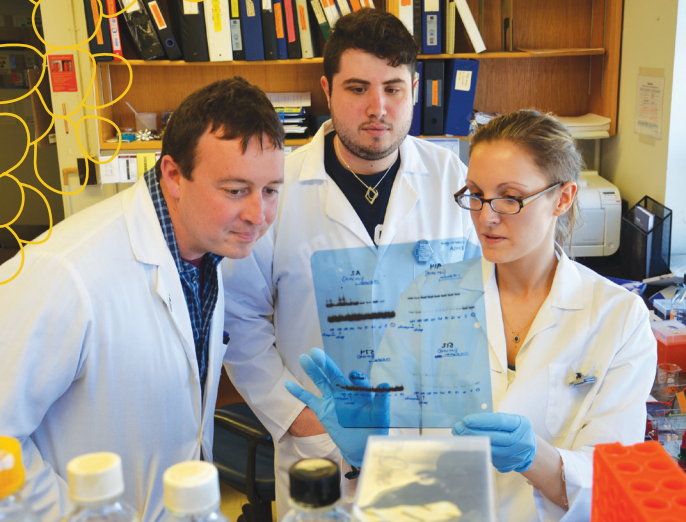
"Brucellosis is the most common zoonosis in the world," said Caswell, who added that there is no human vaccine. "It is hard to treat, often requiring two rounds of antibiotics, with a relapse rate of up to 15 percent and the potential for chronic infections. It has a low mortality rate, but when fatal, it is often due to a heart infection called endocarditis."

Other faculty are trying to export the successful U.S. brucellosis management program to other parts of the world. Dr. Valerie Ragan, director of the college's Center for Public and Corporate Veterinary Medicine, has conducted brucellosis program assessments and lectures

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Brucellosis is the most common zoonosis in the world.

”



A public health challenge in India

Veterinarians are not the only ones trying to stop brucellosis.

Gloria Kang, who is earning dual degrees in the college's Master of Public Health and Ph.D. programs, spent five weeks in southern India last summer to better understand how brucellosis spreads.

"India doesn't have the same disease surveillance protocols or farm management practices that we have in the United States," said Kang, who hails from Woodbridge, Virginia. "It's a very agrarian society, and even though many people have farms, they aren't always following the best practices to prevent diseases such as brucellosis."

Kang spent her time at Tamil Nadu Veterinary and Animal Sciences University, where Virginia-Maryland College of Veterinary Medicine students were also visiting through a long-standing veterinary student exchange program. Working with the Department of Veterinary Public Health and Epidemiology, she did field work on area farms.

"The researchers would go to farms and provide vaccinations for animals and when there was a potential case of brucellosis, we would bring samples back to the lab and do further analysis," said Kang, who collected the data for her Master of Public Health practicum. "It was a learning experience for me because I understood, anecdotally, the impact of brucellosis on farms for both livestock and people."

Kang, who completed a bachelor's degree in wildlife science at Virginia Tech in 2012, quickly learned that common brucellosis management practices in the United States, where the disease is virtually eradicated among domestic cattle, would not work in India.

"Cattle slaughter is not only banned on religious grounds — it's actually illegal in India," Kang said. "Developed countries such as the United States manage brucellosis through test-and-slaughter."

in Georgia, Guatemala, Chile, Mexico, Portugal, Argentina, Brazil, Egypt, Armenia, and other countries. She previously served as a senior staff veterinarian and national brucellosis epidemiologist for the USDA.

According to Dr. S. Ansar Ahmed, head of the Department of Biomedical Sciences and Pathobiology, the college's decades-long strength in brucellosis eradication has built a solid foundation for future endeavors. "Historically, the accomplishments have been significant, and we are continuing to be leaders in this area," Ahmed said.

Written by: Michael Sutphin



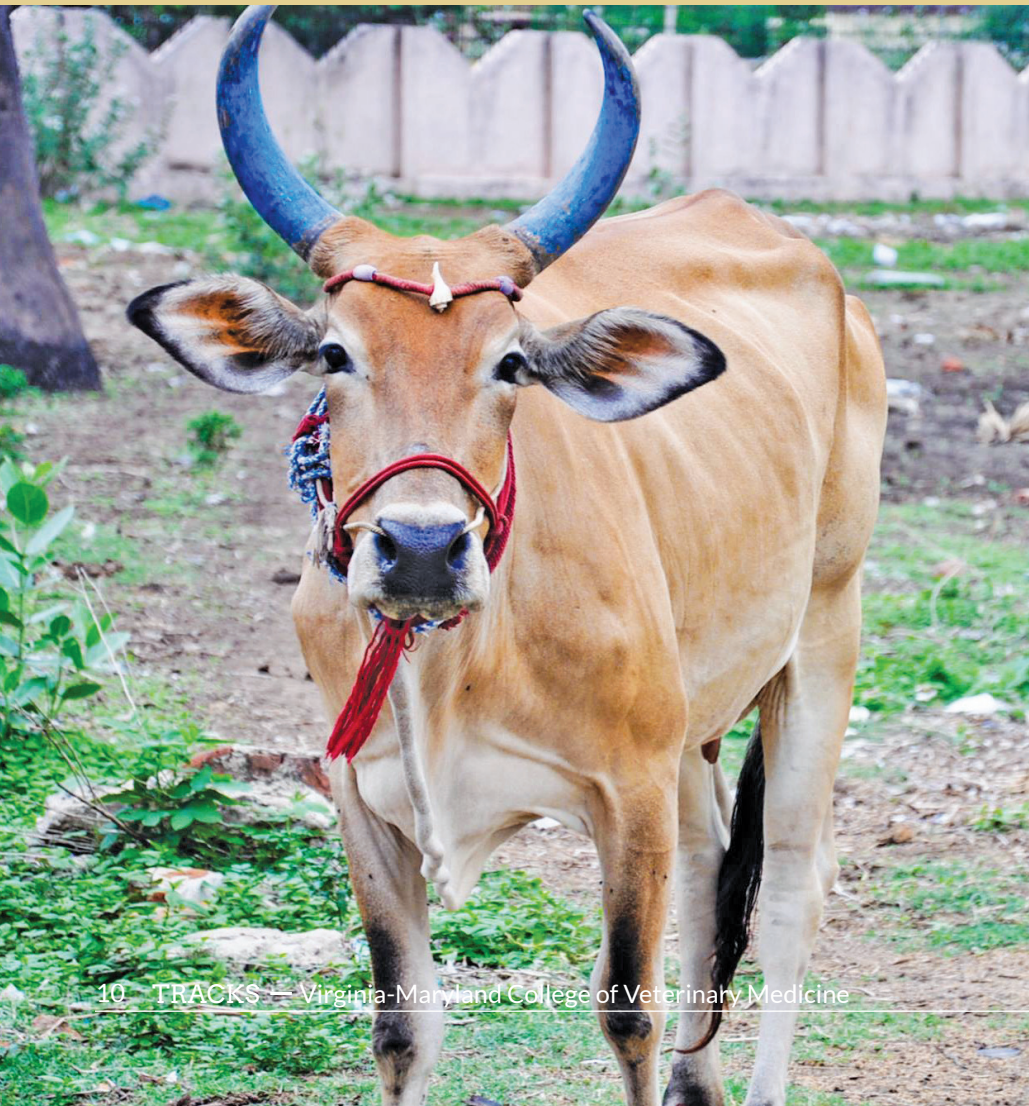
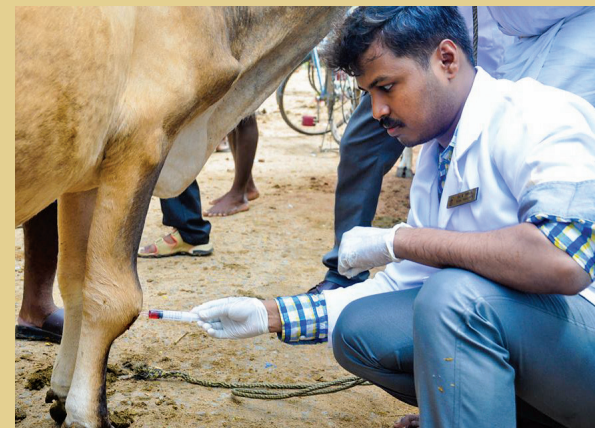
FEATURE

If there's a suspected case, we just remove them from the herd. But in India, they can't do that. How do you get rid of a disease when you can't even use the most conventional means of intervention?"

Kang's practicum gave her a small window into a much larger problem.

"Yes, vaccination and reducing transmission are both good, but we don't know to what extent they are needed because nobody keeps track of how many cows are born, how long they live, and how many die," said Kang, who is now pursuing Ph.D. research on social pathways for influenza. "Hopefully with more feedback and communication with people in India who understand cattle populations, it will be clearer."

Top Right: Gloria Kang prepares to shadow veterinarians on their daily rounds in the rabies ward. **Middle:** Kang visited the Madras Veterinary College in Chennai, India. During her trip, she accompanied researchers to local farms to administer vaccinations and take samples of suspected brucellosis cases. **Below and bottom right:** In India, cattle have a different cultural association than they do in the United States and cannot be slaughtered for religious reasons.



DON'T STOP BELIEVIN'

Journey overcomes big
obstacles after spinal injury



No one knows for sure how Journey, a 4-year-old dachshund, injured himself in late December 2013. When his owner, Anne Swain of Christiansburg, Virginia, brought him on an emergency visit to the Veterinary Teaching Hospital, he was in pain and could not move his back legs.

Clinicians discovered two herniated discs on his spine. Dr. Theresa Pancotto, clinical assistant professor of neurology, performed surgery the day of his arrival. Journey spent New Year's 2014 in the Small Animal Intensive Care Unit.

"When he was discharged, he was given a poor prognosis and not expected to walk," explained Flori Sforza, a veterinary technician and certified canine rehabilitation practitioner. "He was also so aggressive after surgery that we weren't sure what type of rehabilitation we would be able to do."

Two weeks after surgery, Journey visited the Small Animal Community Practice for acupuncture and fitting for a cart. "Journey did end up having acupuncture that day, but we said, 'Let's not do the cart. Let's see if rehab will work,'" Sforza said. "Three days later, he came in and we introduced him to both us and the underwater treadmill."

Sforza regularly uses an underwater treadmill for patients like Journey. It removes pressure on the dogs' joints and allows them to move freely. By adjusting the water level, Sforza can add or reduce resistance to strengthen muscles and improve flexibility. She would enter the underwater treadmill with Journey and offer manual assistance. That changed in early February.

"Although we weren't seeing much motor improvement outside of the treadmill, I noticed a definite change inside of it," Sforza said. "So I let go and we sped up the treadmill. Sure enough, he was walking on his own."

At this point, clients often cancel future appointments but Swain, a retired communications employee of the veterinary college, wanted to give Journey the best chance of recovery and continued rehab sessions and acupuncture treatments from Dr. Mark Freeman, assistant professor of community practice. Over time, the twice weekly visits became monthly checkups and Journey's mood improved.

"Once he started taking treats, getting used to the treadmill, and walking more on his own, I think he became more comfortable and felt less vulnerable," said animal care technician Alexandria Kelly.



Top: Veterinary technicians Flori Sforza (left) and Alexandria Kelly (right) help Journey regain mobility on a balance board during a follow-up visit.

Left: Kelly and Sforza give Journey treats during an underwater treadmill session. **Right:** From left to right, Kelly, owner Anne Swain, Sforza, and Dr. Mark Freeman monitor Journey's progress during an acupuncture treatment.

Now happy to see his friends at the teaching hospital, it's hard to imagine that he ever showed any signs of aggression.

"Through rehabilitation and acupuncture, Journey was able to recover without a cart," Swain said.

"And he's much happier today because of it."





X.J. Meng elected to the National Academy of Inventors

Dr. X.J. Meng, University Distinguished Professor of Molecular Virology, has been named a Fellow of the National Academy of Inventors (NAI).

Meng, a virologist at the Virginia-Maryland College of Veterinary Medicine, studies emerging and reemerging viral diseases that impact veterinary and human public health. Virginia Tech President Timothy Sands is the only other member of the university community who is an NAI Fellow.

“I am very pleased to welcome Dr. Meng to the Academy,” Sands said. “The honor is well deserved and his work exemplifies Virginia Tech’s spirit of research and discovery in service to humanity.”

Meng is an inventor of 20 awarded and 17 pending U.S. patents, as well as 40 awarded foreign patents on vaccines and diagnostics of several important virus diseases. His accomplishments include the discovery of new viruses and the development of licensed commercial vaccines against important animal virus diseases.

“Dr. Meng’s accomplishments as an academic researcher and an innovator—including the discovery of two new viruses, receipt of numerous patents and considerable extramural funding, and the development of vaccines responsive to market needs—are remarkable,” said Dr. Prem S. Paul, vice chancellor for research and economic development at the University of Nebraska-Lincoln, a charter NAI Fellow, and Meng’s nominator.

Sarah McDonald honored with 2015 Zoetis Award for Research Excellence

Dr. Sarah McDonald, an assistant professor at both the Virginia-Maryland College of Veterinary Medicine and the Virginia Tech Carilion Research Institute, received the 2015 Zoetis Award for Research Excellence.

The Zoetis award is a nationally recognized honor for a faculty member at each U.S. veterinary school and “recognizes outstanding research effort and productivity.”

McDonald, a virologist in the college’s Department of Biomedical Sciences and Pathobiology, studies the evolutionary dynamics and pathogenesis of rotavirus, which causes severe diarrhea and dehydration in children. It is responsible for the deaths of as many as half a million infants and young children globally each year. New and improved vaccines, which McDonald hopes to develop in her laboratory, could significantly reduce mortality rates.

Right: Dr. Roger Avery, senior associate dean for research and graduate studies, presents the Zoetis Award for Research Excellence to Dr. Sarah McDonald.

The National Institutes of Health recently awarded McDonald a \$2 million, five-year grant to study the early stages of how rotavirus replicates its genome — an important gap in scientists’ knowledge about the virus that might aid in the development of next-generation vaccines. She was previously the recipient of two National Institutes of Health grants totaling \$1.4 million.





Smithfield Foods Gift to Advance Swine Health

A \$1.4 million gift from Smithfield Foods Inc. will fund three projects (two in the Virginia-Maryland College of Veterinary Medicine) designed to improve health, reduce antibiotic use, and find alternative production methods for growing pigs.

One study will be led by Dr. William S. “Terry” Swecker Jr., a professor in the Department of Large Animal Clinical Sciences. It targets strategic intervention for the swine flu virus, which is easily spread and often leads to costly-to-treat secondary infections.

Mike Zhang, a professor of biological systems engineering in the College of Agriculture and Life Sciences, heads a second study to explore the use of recombinant universal vaccines against

porcine reproductive and respiratory syndrome which hinders reproduction and results in the loss of many pigs each year.

The third project led by Dr. Nammalwar “Nathan” Sriranganathan, a professor of biomedical sciences and pathobiology at the veterinary college, seeks to determine the viability of developing a recombinant vaccine to control boar taint, an offensive taste or odor that can affect pork made from male pigs.

Dr. Cyril Clarke, dean of the veterinary college, said the research projects will advance swine health. “Such partnerships between industry and research universities are essential to control infectious diseases and secure a safe and wholesome food supply.”

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Top: Bacteriologist Dr. Nammalwar Sriranganathan will work to develop a vaccine to control boar taint with his Smithfield funding.



Sophie Bogers Wins \$15,000 Career Development Award

Dr. Sophie H. Bogers, an equine surgery resident at Virginia Tech's Marion duPont Scott Equine Medical Center in Leesburg, Virginia, was recently named the first recipient of the Elaine Klein Career Development Award.

One of two career development awards offered by the Grayson-Jockey Club Research Foundation, the Klein award is a competitive program intended to promote the development of promising investigators by providing a one-year salary supplement of \$15,000. A prominent owner and breeder in Kentucky, Klein raced horses in partnership with her husband and son until her death in 2013.

Bogers' research work focuses on using stem cells to treat osteoarthritis in horses with specific aims of optimizing the anti-inflammatory properties of equine bone marrow-derived mesenchymal stem cells.

"We are very proud to see Sophie's good work be recognized by such a prestigious award," said Dr. Jennifer Barrett, Theodora Ayer

Randolph Professor of Equine Surgery at the Virginia-Maryland College of Veterinary Medicine and Bogers' advisor/mentor. "Her research has the potential to change the way osteoarthritis is treated in horses, but also perhaps in dogs and humans."

A native New Zealander, Bogers received her doctor of veterinary medicine degree from New Zealand's Massey University Institute of Biological and Veterinary Sciences in 2009. She then completed an internship and fellowship at Hagyard Equine Medical Institute in Lexington, Kentucky, as well as a master of veterinary science research degree at Massey.

She will graduate with a master's degree in biomedical and veterinary sciences from the Virginia-Maryland College of Veterinary Medicine this May, then pursue her doctorate at the college. She will continue to work closely with Barrett, a regenerative medicine researcher based at the Leesburg facility, with a targeted Ph.D. completion date of 2017.

Below: Dr. Sophie Bogers prepares to extract bone marrow from an equine patient.



“
We are very proud to see Sophie's good work be recognized by such a prestigious award.
”



Casino Night raises almost \$13,000 for Compassionate Care Fund

Veterinary students dealt a winning hand to animals in need at the third annual Casino Night fundraiser in January. The charity event brought in \$12,800 for the Veterinary Teaching Hospital's Compassionate Care Fund.

Sponsored by Alpha Psi, Omega Tau Sigma, and the Student Chapter of the American Veterinary Medical Association, the event provides financial support when an animal's owners are either unknown or cannot meet the financial needs of treatment. The support is also limited to cases where a successful outcome and good quality of life are likely.

Since 2013, Casino Night has attracted more participants and raised more money each year. Last year, students raised \$9,000 for the Compassionate Care Fund, more than triple the first year's total. The funds raised not only benefit patients, but also give students valuable learning opportunities at the teaching hospital.

"Last year's money helped fund surgical and diagnostic procedures for 17 animals," said Jordan Adair, a third-year veterinary student from Calvert County, Maryland. "It helped pay for back surgery on a 4-year-old dog from Roanoke, a pelvic fracture repair on a 7-year-old cat from Vansant, surgery to fix a heart defect in an 8-month-old puppy from Roanoke, spleen removal in a 9-year-old dog from Timberville, hip replacement in a 2-year-

old dog from Caldwell, and knee surgery on a 2-year-old dog from Catawba."

This year's event attracted about 500 faculty, staff, students, and guests from both the veterinary college and the Edward Via Virginia College of Osteopathic Medicine in Blacksburg. Tickets came with a bag of chips for the blackjack, roulette, poker, and craps tables where faculty member served as "dealers."

Casino Night also offered a silent auction for dog houses built by first-year veterinary students. Last fall, Purina sponsored a team-building event for the Class of 2018, where students built and painted the dog houses to be auctioned at Casino Night and other events to support the Compassionate Care Fund and the local Animal Welfare Foster Program.



Above: As the photos prove, a great time was had by all at the Casino Night fundraiser! **Right:** Student organizers present a check for \$12,800 to hospital administrator Rick Hiller to benefit the Compassionate Care Fund.

Class Acts: These faculty members represent the four departments at Va-Md Vet Med – Biomedical Sciences and Pathobiology, Small Animal, Large Animal, and Population Health Sciences.



Coy Allen

Assistant Professor of Inflammatory Disease. Dept. of Biomedical Sciences and Pathobiology
Years at Va-Md Vet Med: 3

Why did you choose to work at Virginia Tech and Va-Md Vet Med?

I was impressed with the strategic vision of the University and liked the health science initiatives that were underway. My research fits well into the “One Health” initiatives that are on-going at the University and College of Veterinary Medicine.

Your favorite restaurant to eat at in Blacksburg? Hands down, Carol Lee Donuts. I can’t eat a steak or drink a beer there, but I can make a meal of donuts and coffee anytime.

Your favorite place to travel? I enjoy the beach. My wife’s family has a small house on the outer banks in North Carolina that has been in their family since the 1940s. There is not much to it, but it is on the beach with no internet and very spotty cell phone reception. It is a great escape and full of family memories.

What would you attempt if you knew you could not fail? I enjoy carpentry. I have constructed a variety of projects around the house and built a really nice storage building. If I knew that I would not fail, I would love to build my own house.



Theresa Pancotto

Assistant Professor of Neurology. Dept. of Small Animal Clinical Sciences
Years at Va-Md Vet Med: 4

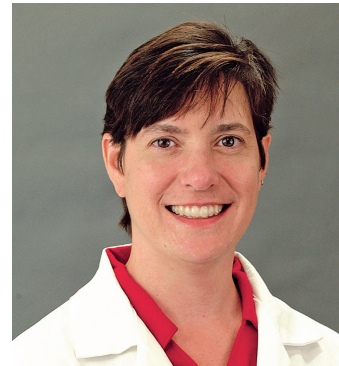
What do you love most about your work at the vet school? It’s a toss up between working with really awesome students/residents who go on to do great things and fixing patients. Nothing is quite as gratifying as making a paralyzed dog walk or bringing a dog back from the brink of death (or sometimes, even from death itself).

What is a fact about you that few people know? I love hiccups and mustard. If I could pay to have hiccups, I would. All the time. Except maybe in surgery. Mustard is also the best condiment invented. EVER.

What is your greatest accomplishment? Finishing my residency and passing ACVIM boards first go-round. This might change soon since I’ve signed up for an Ironman (2.4 mile swim, 112 mile bike, 26.2 mile run) this fall.

Your favorite restaurant to eat at in the Blacksburg area? I love to eat brunch (especially after a good morning workout) and I’d probably have to go with Gillie’s for favorite brunch spot.

Your favorite place to travel? Everywhere! I travel to Disney World (and Disneyland) a LOT, but I love going to old cities - London, Edinburgh, etc.



Sherrie Clark

Associate Professor of Theriogenology. Dept. of Large Animal Clinical Sciences
Years at Va-Md Vet Med: 4

Why did you choose to work at Virginia Tech and Va-Md Vet Med? VMCVM is my alma mater – I graduated in 1996.

If you could choose one animal to be like, what would that be? I already feel similar to my favorite animal, the pig. They are pretty smart and like to figure things out.

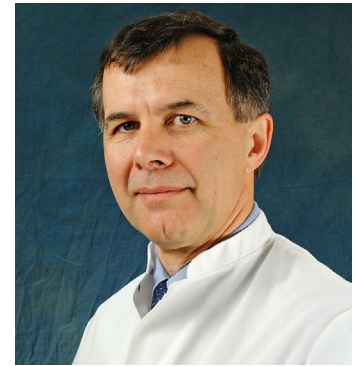
What is a fact about you that few people know? I have a twin sister and we don’t really look alike.

What are you most proud of? The students here at VMCVM – they keep amazing me every year!

Who do you admire? My parents – I admire the way they have instilled deep rooted family values in me and my sisters and allowed all of us to pursue our dreams.

What is your greatest accomplishment? Returning to the college as a tenured professor and getting to work with some extraordinary faculty and staff.

What would you attempt if you knew you could not fail? Skydiving, but that means I would have to actually jump out of the plane!



François Elvinger

Professor of Production Management Medicine, Epidemiology. Head, Dept. of Population Health Sciences
Years at Va-Md Vet Med: 18

What do you love most about your work at the vet school? My colleagues and department, the students, the huge variety of work and areas I can be engaged in – although the challenge then is to remain focused!

What is a fact about you that few people know? I still think in Luxembourgian – yes, that is an official language!

What are you most proud of? Of all the folks in our department – their enthusiasm, and the tremendous work they all did to launch our new public health program, get it accredited, and their continued work to expand it.

Your favorite country to travel? Norway -- hiking the mountains in Norway, although I have not done that in 30 years --- I need to get to it again, soon!

Your favorite restaurant to eat at in the Blacksburg area? The Homeplace restaurant in Catawba! My family and I also recently discovered the Draper’s Mercantile, about half an hour away. Fun place, good music, and great food.



Dr. Bill Pierson



Dr. Frank Pearsall

Pierson and Pearsall step down from leadership roles

Two familiar faces and members of the college's charter Class of 1984 have transitioned into new roles after years of service.

Dr. Bill Pierson, director of the Veterinary Teaching Hospital since 2008, stepped down from the position in December.

"Dr. Pierson provided extraordinary service to the Veterinary Teaching Hospital and the college," noted Dean Cyril Clarke. "During his tenure as director, there was a significant increase in clinical case submissions, establishment of a satellite clinic in Roanoke, and development of new specialty services."

Pierson now serves as a faculty member in the Department of Population Health Sciences and is focusing on his biosecurity and infection control efforts.

Dr. Frank Pearsall, who was the college's director of development for 24 years, also retired in December. Under Pearsall's tenure, the college raised more than \$52 million and established a number of student scholarships and endowed professorships.

"Dr. Pearsall has committed many years of service to advancing the college and I am grateful for all that he has accomplished," Clarke said. "His legacy will continue well beyond his retirement because of the relationships that he has built with donors and the gifts that he has secured in the form of estates that will be realized over an extended period of time." Pearsall plans to start a low-level, non-surgical laser therapy practice in the area.



Zeroing in on parasites

Dr. Anne Zajac, associate professor of parasitology in the Department of Biomedical Sciences and Pathobiology, penned a leading diagnostic manual that is used in veterinary schools, diagnostic labs, and veterinary practices around the world and has sold more than 50,000 copies.

Zajac has been co-author of the last three editions of *Veterinary Clinical Parasitology*. Published under the auspices of the American Association of Veterinary Parasitologists (AAVP), the diagnostic manual focuses on the latest, cost-effective techniques for identifying both internal and external parasites of domestic animals.

"Parasites have important economic and health consequences," said Zajac, who has worked at the veterinary college for 29 years and was the AAVP's first female president. "They are fascinating organisms because of their complexity at all stages of the life cycle."

Co-authored by Gary Conboy of the University of Prince Edward Island and translated into Portuguese and Turkish, the book has a Chinese edition in development. All royalties fund student travel to the AAVP's annual meeting.



Valedictorian Kelly Underwood shifts from humanities to veterinary science



Above: Kelly Underwood poses in the college grove with her rescue dog, Judy.

Like most veterinary students, Kelly Underwood of Vienna, Virginia, knew that she wanted to work with animals from a young age. By the time she began studies at the University of Virginia, however, her interests shifted to the humanities.

“I really liked English and history, so I pursued that at the beginning of my college career,” said Underwood, who served as a life-section editor for her college newspaper, *The Cavalier Daily*. “But when I started looking at jobs in either journalism or publishing, I began to reevaluate what I did enjoy. At the time, I was also volunteering at a Society for the Prevention of Cruelty to Animals facility and working at a wildlife center.”

After deciding to turn her love of animals into an academic pursuit, Underwood made a switch in the middle of her undergraduate career and began taking biology and life science classes. In 2010, she graduated with a bachelor’s degree and the rather unlikely dual major of English and biology.

Today, Underwood is the Class of 2015 valedictorian at the Virginia-Maryland College of Veterinary Medicine. “Doing well in veterinary college

isn’t about being super-smart,” said Underwood who, as valedictorian, received the college’s Richard B. Talbot Memorial Award. “For me personally, it’s about being willing to put in the time and effort to study and being organized.”

Outside of her studies, Underwood made a lasting contribution to the veterinary college as one of three founding co-chairs of Virginia Tech Helping PAWS (Pet Assisted Wellness Service). Pets of veterinary students, along with college faculty and staff, can participate in this community animal therapy program. Therapy dogs and cats bring companionship and animal-assisted therapy to nursing homes, assisted-living centers, libraries, and schools in the community.

“VT Helping PAWS gave me a chance to hang out with animals and appreciate the human-animal bond without the rigors of veterinary school,” said Underwood, who pursued the college’s small animal track.

After graduation, Underwood will work at a small animal general practice in Gaithersburg, Maryland, about 30 minutes away from her hometown in Northern Virginia.

ALUMNI CORNER:

Where Are They Now? A Celebration of Our Alumni and Their Achievements

Dr. Chip Godine – Light Therapy Trailblazer



Dr. Richard “Chip” Godine (DVM ’87) enjoys trying new things. He was the first veterinarian to serve as president of the North American Association for Light Therapy and is one of two veterinarians in the world to utilize the intravenous IV Laser.

He and his alumna wife, Dr. Caroline Godine (DVM ’90) own and operate the Ruckersville Animal Hospital in Ruckersville, Virginia.

One of a handful of Virginia surgeons trained to perform tibial tuberosity advancement in the repair of cruciate disease, his special interests include ultrasound, cardiology, laser therapy, and orthopedic surgery.

A past president of the Virginia Veterinary Medical Association, Godine won the 2014 VVMA Veterinary Service Award.

Dr. Jennifer Coates – Writer/Author



Since graduating with honors from the college, Dr. Jennifer Coates (DVM ’99) has practiced in Virginia, Wyoming, and Colorado. She is a featured veterinarian on petMD.com’s blog, *The Daily Vet*. A Fort Collins, Colorado resident, Coates said she’s learned that client communication is one

of the most important parts of veterinary medicine. Without accurate information, she said, an owner cannot be an advocate for the best interests of his or her pets.

Coates is also a published author of several books including the *Dictionary of Veterinary Terms*, *Vet-Speak Deciphered for the Non-Veterinarian*. In addition, she writes short stories and freelance articles related to a variety of animal care and veterinary topics.

Alumni Award Winners Named

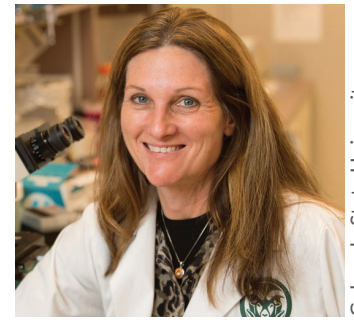
Dr. Tom Cecere (DVM '05, PhD '12) of Blacksburg, Virginia, and Dr. Sue VandeWoude (DVM '86) of Fort Collins, Colorado, were named the 2015 Distinguished Alumni Award winners.

Cecere was honored with the Outstanding Recent Alumni Award. After graduating with his DVM degree in 2005, Cecere completed a master's program in specialized veterinary medicine in 2008 at North Carolina State University. That same year, he achieved Diplomate status within the American College of Veterinary Pathologists, with an emphasis on anatomic pathology.

He then returned to Virginia-Maryland where he completed his doctorate in 2012 in viral immunology through a National Institutes of Health grant program designed to address the shortage of veterinarians who conduct biomedical research. After graduation, Cecere joined his alma mater as an assistant professor in the Department of Biomedical Sciences and Pathobiology. His research interests include swine infectious diseases, microbial immunology, diagnostic pathology, and pedagogy.

Dr. Sue VandeWoude was selected as the recipient of the college's inaugural Lifetime Achievement Alumni Award.

The world-renowned virologist currently serves as associate dean for research in the College of Veterinary Medicine and Biomedical Sciences at Colorado State University and professor of comparative medicine in Colorado State's Department of Microbiology, Immunology, and Pathology.



Colorado State University

She received her bachelor's degree in chemistry from California Institute of Technology, Pasadena, California, and her doctor of veterinary medicine degree from the Virginia-Maryland College of Veterinary Medicine. She completed postdoctoral training at The Johns Hopkins University's Division of Comparative Medicine in Baltimore, Maryland.

A Diplomate of the American College of Laboratory Animal Medicine, VandeWoude's research program on animal viruses has been funded to the tune of \$15 million since 1994. She has published 80 peer-reviewed research articles in top international journals, written six book chapters, and 200 peer-reviewed abstracts.

Her ground-breaking discovery on cloning the Borna disease virus (BDV) genome revolutionized the field and provided the critically-needed knowledge for designing effective prevention and control strategies against this important animal pathogen and also led to the recognition of BDV as a zoonotic pathogen that infects humans.

An authority on feline viral diseases, her recent work on Feline Immunodeficiency Virus (FIV) not only helped veterinarians, but also provided critically-important knowledge and a useful animal model in understanding the deadly HIV/AIDS virus, since FIV is a cousin of human HIV.



Veterinary students impress at national symposium

Virginia-Maryland students had a strong showing at the 2015 Student American Veterinary Medical Association (SAVMA) Symposium at the University of Minnesota.

In academic competitions, the college fielded two teams: bovine palpation and radiology. The Bovine Palpation Team finished second in this year's competition, and second-year student Tyler McGill of Waterford, Vermont, finished first among individuals.

Left: Veterinary students, from left, Joseph O'Hara, Ryan Giles, Tyler McGill, Erica Marshall, Matthew Putnam, and Emily Murray were members of the college's radiology team at the SAVMA Symposium.

Team members included food animal trackers and third-year veterinary student Emily Murray of Leesburg, Virginia; and second-year students Erica Marshall, Chambersburg, Pennsylvania; Matthew Putnam, Fresno, California; Ryan Giles, Fort Collins Colorado; and equine tracker McGill.

Palpation Team members then joined with second-year student and food animal tracker, Joseph O'Hara of Kingston, Pennsylvania, to form two teams for the SAVMA Radiology Bee. One team made it to the championship radiology round and finished second overall. Ryan Giles took third place in individual competition.

"Our strong performance was enough for third place in the overall point total among all vet schools," noted McGill.

During the SAVMA House of Delegates meeting, third-year veterinary student Maria Romano of Shepherdstown, West Virginia, was appointed the Global and Public Health Officer for the SAVMA National Board. In this position, she will oversee and organize the SAVMA One Health Project and the National One Health Challenge.



Upcoming Events

- June 20-23 – MVMA Summer Conference, *Ocean City, MD*
- July 10-14 – AVMA Annual Convention, *Boston, MA*
- July 26-31 – VA-MD Vet Science Camp, *Blacksburg, VA*
- Sept. 7 – VA-MD Homecoming and Football Tailgate, *Blacksburg, VA*
- Sept. 26 – Human-Animal Bond Symposium, *The Inn at Virginia Tech*

Make a Difference

It's always a great time to give! By helping us to advance our strategic priorities and fulfill our mission of training veterinarians, your gifts also benefit pet owners, industry, and society at large.

To support the college or learn more about ways to give, contact our Development Office at 540-231-4716 or visit us online at www.vetmed.vt.edu/development

Join the Conversation!

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LinkedIn Group: VA-MD Vet Med
Flickr: /photos/VA-MD-VetMed/



Above: Open House visitors like 2-year-old Sadie Quesenberry of Blacksburg are often awe-struck when they come face-to-face with the large skeletons in the anatomy lab. The family-friendly event, held each April, is hosted by the Student Chapter of the American Veterinary Medical Association. It provides an opportunity for visitors to learn about veterinary medicine and the college through tours, demonstrations, lectures, and getting up close and personal with animals.