



Cornell University
College of Veterinary Medicine

'SCOPES

FROM STETHOSCOPES | TO MICROSCOPES | TO THE S... THE COLLEGE February 2014



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**CORNELL UNIVERSITY
COLLEGE OF VETERINARY MEDICINE**

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'SCOPES

February 2014

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ON THE COVER: Daniel Jackson, from the Class of 2014, designed a study to assess the burden, prevalence, and distribution of Brucellosis in domestic yak, yak-cattle hybrids, and their herders in the mountain region of Shey Phoksumdo National Park, Nepal.



Cornell and Coggins

Since its founding, Cornell has had an enormous impact on animal health and continues to drive advances in the foundations and practice of medicine. As we approach Cornell's sesquicentennial, we are highlighting some of the discoveries that have improved the health and well-being of animals and people. In this and subsequent issues of 'Scopes, I describe another example of what I term "Discoveries that Made a Difference," critical advances in animal health that involved Cornell scientists.

The first case of Equine Infectious Anemia (EIA) was identified in 1843 in France and over the next four decades outbreaks of the contagious disease of horses also known as "swamp fever" were documented across Europe, Africa, and Asia, followed by spread to the United States in 1888. As we now know, the clinical signs of progressive weakness, fever, and weight loss often leading to death result from a lentivirus similar to Human Immunodeficiency Virus (HIV). This lentivirus, though, is transmitted by biting insects, the first lentivirus proven to be spread in this manner. Throughout the latter half of the 19th and first half of the 20th centuries, the disease devastated collected populations of horses on farms, at racetracks, and in cavalries around the world. Like HIV, EIA infection is persistent, and horses that do not succumb to the infection become reservoirs of the virus for their lifetime and threats to other horses in their immediate area.

Leroy Coggins came to Cornell at a time of great progress in the discovery, detection, and prevention of viral diseases in animals. He grew up in North Carolina, received his undergraduate degree from N.C. State, and (North Carolina not yet having a veterinary college) attended and obtained his DVM from Oklahoma State University in 1957. Coggins joined the U.S. Army, working in their infectious disease laboratory, which influenced his decision to come to Cornell for graduate work in 1959. Joining what was then the Veterinary Virus Research Institute at Cornell University (and later the Baker Institute), Coggins worked with James Baker and James Gillespie on Bovine Virus Diarrhea and Hog Cholera viruses, receiving his Ph.D. from Cornell in 1962. Coggins then traveled to Kenya for the USDA, where he spent five years developing methods to identify animals infected with the African Swine Fever virus.

In 1968, Coggins returned from Africa to join the faculty at Cornell. During the early 1960s several significant outbreaks of EIA occurred in New York State on Standard-bred breeding farms, as well as at racetracks throughout the United States, highlighting the importance of early detection and quarantine in reducing transmission. Coggins began to work on the problem, publishing his first paper on the virus in 1969, and applying his expertise in developing methods to detect African Swine Fever using immunodiffusion to detect antibodies in infected animals. At the time, the only way to prove that a horse was infected was with an inoculation test, transferring blood to a normal horse and determining if the test horse acquired EIA: if determined to be positive, both horses would be euthanized. Coggins worked with Dr. Neil Norcross, who came to Cornell in 1960 from the Federal Animal Disease Laboratory on Plum Island where he had worked with George Poppensiek. They purified an antigen from the spleens of infected horses and showed that it reacted with the serum of other infected horses in an immunodiffusion test. The results identified horses infected with different virus strains, which was important since EIA, like HIV, undergoes antigenic drift, altering its form during the course of infection. At about this time a group from the Japanese National Institute of Animal Health demonstrated that a purified virus worked in the same way, and the groups collaborated to show that Coggins' purified protein and the concentrated virus yielded equivalent immunodiffusion results. In 1972 Coggins described his soon to be famous test in a paper with Norcross and Dr. Sidney Nusbaum. The test provided 100% accuracy in predicting disease, as injecting normal horses with blood samples from horses with a positive test (85 horses all developed EIA) and samples from horses with a negative test (76 horses did not acquire EIA). Within a year, the USDA designated the "Coggins Test" as the official means of detection of EIA infection, established procedures to certify laboratories to conduct the test, and prohibited interstate travel of infected horses.

The test and its adoption by state and national animal health agencies had a tremendous effect on the morbidity of the disease in the U.S., and subsequently around the

world. EIA was the first lentivirus disease detected in any species and the first known viral disease transmitted by insects that could be contained. The Coggins Test allows for early detection, which decreases the likelihood that an infected horse can transmit the virus before being euthanized or quarantined. Although other serologic tests have been developed and approved for diagnosing EIA, the Coggins Test remains the internationally recognized standard. In 2005, the USDA estimated that the percentage of positive samples in the United States decreased from nearly 4 percent in 1972 to less than 0.01 percent in 2005.

In 1980, Coggins returned to North Carolina as Department Chair in the newly established North Carolina State Veterinary College. He retired in 1994 and sadly passed away this past December. One of a group of virologists with enormous impact on the control of infectious diseases in animals, his discoveries truly made a difference for hundreds of thousands of horses and their owners and advanced our knowledge of retroviral disease. Dr. Coggins' accomplishments put him in the same esteemed category as those mentioned in this issue of 'Scopes. I hope you enjoy and look forward to seeing many of you at this year's Reunion.

Cordially,



Michael I. Kotlikoff, VMD, PhD
Austin O. Hooley
Dean of Veterinary Medicine

(This message relies heavily on the following works: "Immunodiffusion Reaction in Equine Infectious Anemia" by Drs. Leroy Coggins and N.L. Norcross, 1969; "Development of the Coggins Test" by Dr. Leroy Coggins, 1984; Equine Infectious Anemia (EIA) Info Sheet, produced by APHIS, 2006; and "The history of Equine Infectious Anemia," by Debbie Clark MPH and Dr. William Jeter)

Jax's Surgery restores basic life

Jaw

Although the cause is unclear, one thing is for sure: Jax, a young German shepherd dog, couldn't open his mouth, a condition that made eating and drinking unusually difficult, aspiration a dangerous possibility, and panting impossible. While under the care of Precious Pups, a rescue organization in Mountain View, N.Y., Jax was referred to the Cornell University Hospital for Animals, where three-dimensional computed tomographic images revealed the problem: two bones on the right side of Jax's mouth had fused, creating a solid mass that prevented the joint from moving.

"We deal with complex cases every day, but Jax's condition was certainly not an every-day routine case at Cornell," said Dr. Santiago Peralta, Chief of the Section of Dentistry and Oral Surgery at Cornell University. "The problem made his quality of life unacceptable."

Through a combination of sources, including donations to Precious Pups and Jax's adoptive parents, funds were raised for the corrective surgery that Jax needed. Using specialized equipment, Cornell assembled a veterinary team that included board certified specialists, residents, and technicians from the Dentistry and Oral Surgery and Anesthesia Sections. With tomorrow's veterinarians observing the procedure, the team removed the fused mass during an approximately five-hour surgery that involved a challenging intubation for anesthesia prior to surgery due to the inability to open the mouth and visualize the larynx.

"Stories like Jax's are why I wanted to be a veterinarian," said Dr. Robert Campbell, resident in

Dentistry and Oral Surgery, who performed the surgery under the supervision of Dr. Peralta, and with the assistance of a fourth-year veterinary student Elizabeth Parsley, and licensed veterinary technician Sharon Harvey. "We made his life better and that is tremendously rewarding. The opportunity to share this with students at Cornell ensures that if there are other animals in this situation, we'll have a new cohort of talented caregivers waiting to help. Hopefully our students will never see a situation like this again, but if they do, they will be ready."

Jax sailed through his three-month check-up, leaving Cornell's hospital ready to live a happy and healthy life with all the expected abilities.

"The surgery allowed him to bark and chew," said Janice Morrow, who adopted Jax from Precious Pups with her husband, Greg. "No animal deserves to be in the condition that we found Jax in. He captured our hearts with his eyes when we first met him. We fell in love with him and knew that we could help him if we just kept searching and asking the right questions. Anything is possible if you don't give up."

Editor's Note: Shortly after his three-month visit, Jax was involved in a tragic accident, from which he did not recover. We are grateful to the Morrrows and to Precious Pups for allowing us to share Jax's story with our readers.





Opening in 2014

SPECIALTY/EMERGENCY EQUINE HOSPITAL

Cornell University's College of Veterinary Medicine has signed a lease-buy agreement with Racebrook Capital Advisors, LLC for the former Ruffian Equine Medical Center to establish Cornell Ruffian Equine Specialists, a referral and emergency care hospital. The hospital, located near the Belmont Racetrack backstretch in Elmont, N.Y., is expected to open April 1, 2014, and will provide elective equine specialty services to horses referred by their attending veterinarians. Full emergency and

critical care services will be offered by the Spring of 2015. Cornell Ruffian Equine Specialists will partner with referring veterinarians to meet the needs of New York State racing and the surrounding sport horse communities.

The 22,000 square-foot facility will provide state-of-the-art surgical, imaging, diagnostic, and rehabilitation services to enhance equine health. Dr. Alan Nixon, a renowned equine orthopedic surgeon and Director of the Comparative Orthopedics Laboratory, will serve as the

Chief Medical Officer of Cornell Ruffian Equine Specialists. Drs. Lisa Fortier and Norm Ducharme, pioneers in regenerative and laryngeal procedures, will also offer advanced surgical procedures. The hospital will be staffed by Cornell University veterinarians and technicians and will offer a full complement of advanced orthopedic and soft tissue surgery and regenerative therapies, an internal medicine service, and a broad array of diagnostic modalities including advanced imaging such as MRI, CT, nuclear scintigraphy, high

speed treadmill endoscopy, arthroscopy, and laboratory services.

"We are looking forward to joining the well-established horse-racing and sport horse communities in the area, adding value to veterinarians, trainers and owners in the region and supporting the critical equine industry in the State of New York," said Dr. Michael I. Kotlikoff, Austin O. Hooey Dean of Veterinary Medicine at Cornell's College of Veterinary Medicine. "The hospital will be within walking distance of Belmont Park, recognized as one of

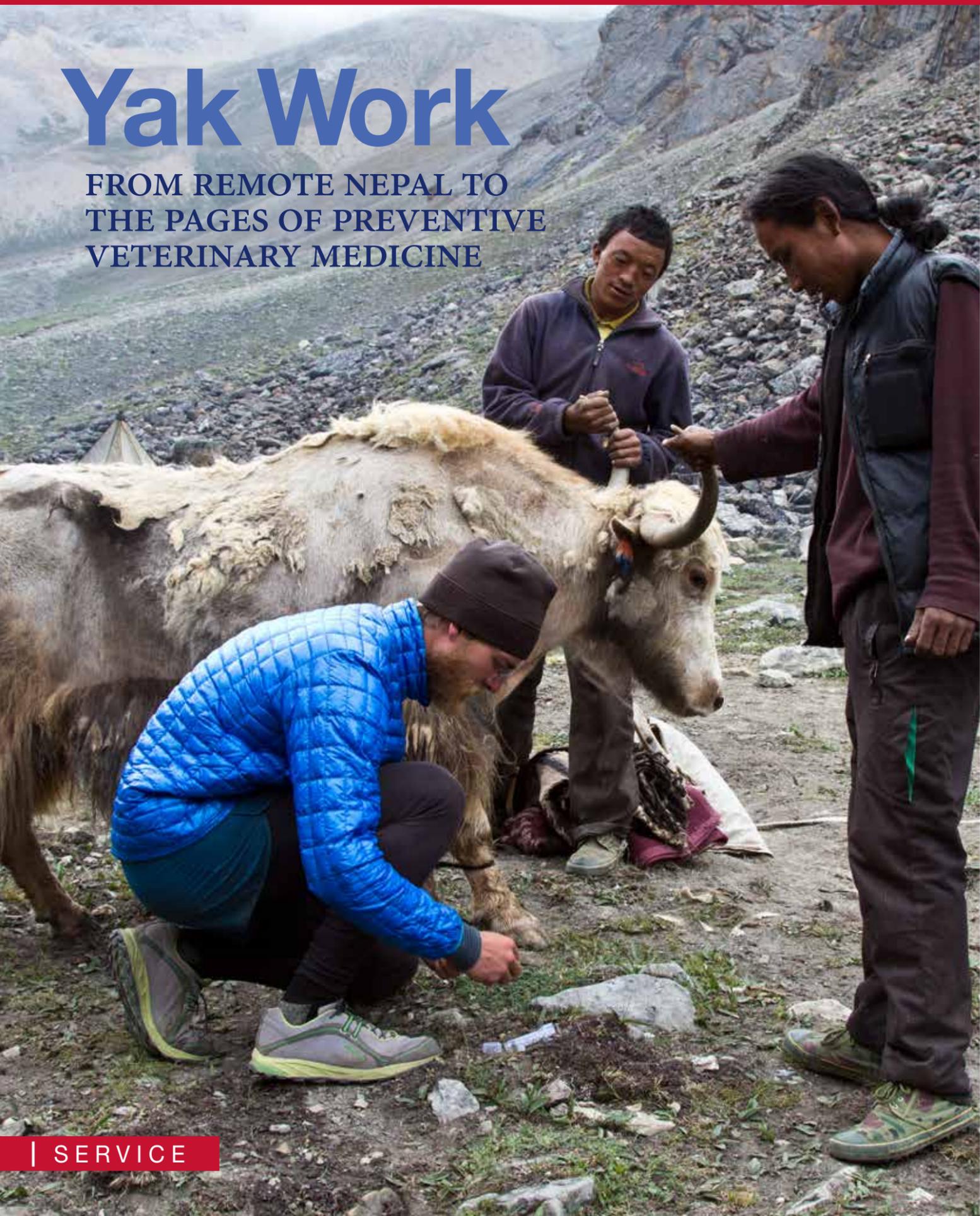
the world's premiere Thoroughbred horse-racing facilities, and is easily accessible to the many sport horse enthusiasts located in and around the area. Our goals are to improve the health and safety of the equine athlete and by so doing to strengthen one of the world's premiere racing programs."

"This is an exciting initiative for Cornell," said Nixon. "Through the establishment of Cornell Ruffian Equine Specialists, Cornell will honor Ruffian's legacy. She established herself as one of the greatest race-

horses to set foot on the track and is known as the perfect champion and a courageous filly. The new center will continue the sense of inspiration and achievement surrounding Ruffian, and we are eager to partner with the referring veterinarians to do so. We have multiple goals for our new hospital, all of which are patient-centered, client-responsive, and community-minded."

Yak Work

FROM REMOTE NEPAL TO
THE PAGES OF PREVENTIVE
VETERINARY MEDICINE



Brucellosis has been around for centuries in Nepal. It has stolen years of quality living—from animals and people.

It poses a substantial economic and health burden on transhumant pastoralists (herders of Nepal's mountainous regions who move seasonally with their animals.) And, it is recognized as the most common bacterial zoonotic infection in the world. Over the years, any number of experts could have tackled the issue: world-renowned scientists, epidemiologists from noted research universities, and public health advocates working at the center of global disease control initiatives. Despite all of this, and the fact that Brucellosis is acknowledged to be endemic in Nepal, neither the distribution nor the economic and public health impact of the disease in the country's mountainous regions has been well characterized, according to several recent studies. During the summer of 2012, Daniel Jackson, a DVM candidate in Cornell's Class of 2014, decided to see what could be done.

He designed a study to assess the burden, prevalence, and distribution of Brucellosis in domestic yak, yak-cattle hybrids, and their herders in the mountain region of Shey Phoksumdo National Park, Nepal. He secured funding from various sources, including a grant from the Expanding Horizons program, which supported field research in Nepal, visits to Nepal's Yak Breeding Station in Syangboche, and tours of veterinary facilities and colleges in Kathmandu with Nepalese veterinarians and veterinary students. Collectively, his proposed experience integrated his interest in public health, livestock production systems, and environmental conservation. His research, which was published in *Preventive Veterinary Medicine*, a peer-reviewed journal published by Elsevier, has raised awareness about Brucellosis in the Himalaya and provides information that may help to improve the lives of animals and people in the region.

"I am fortunate to be supported by the intellectual and financial resources of Cornell," said Jackson, who spent a year in Mongolia on a Fulbright Fellowship after earning his bachelor's degree. "To make this happen, I tapped into expertise from around the college and dug up old personal connections in Asia. Veterinary services in the northern Himalaya are basically non-existent, as are sources of funding to support an endeavor like this."

While all true, it is also fair to say that most people would not accept the challenge. Jackson's project in-

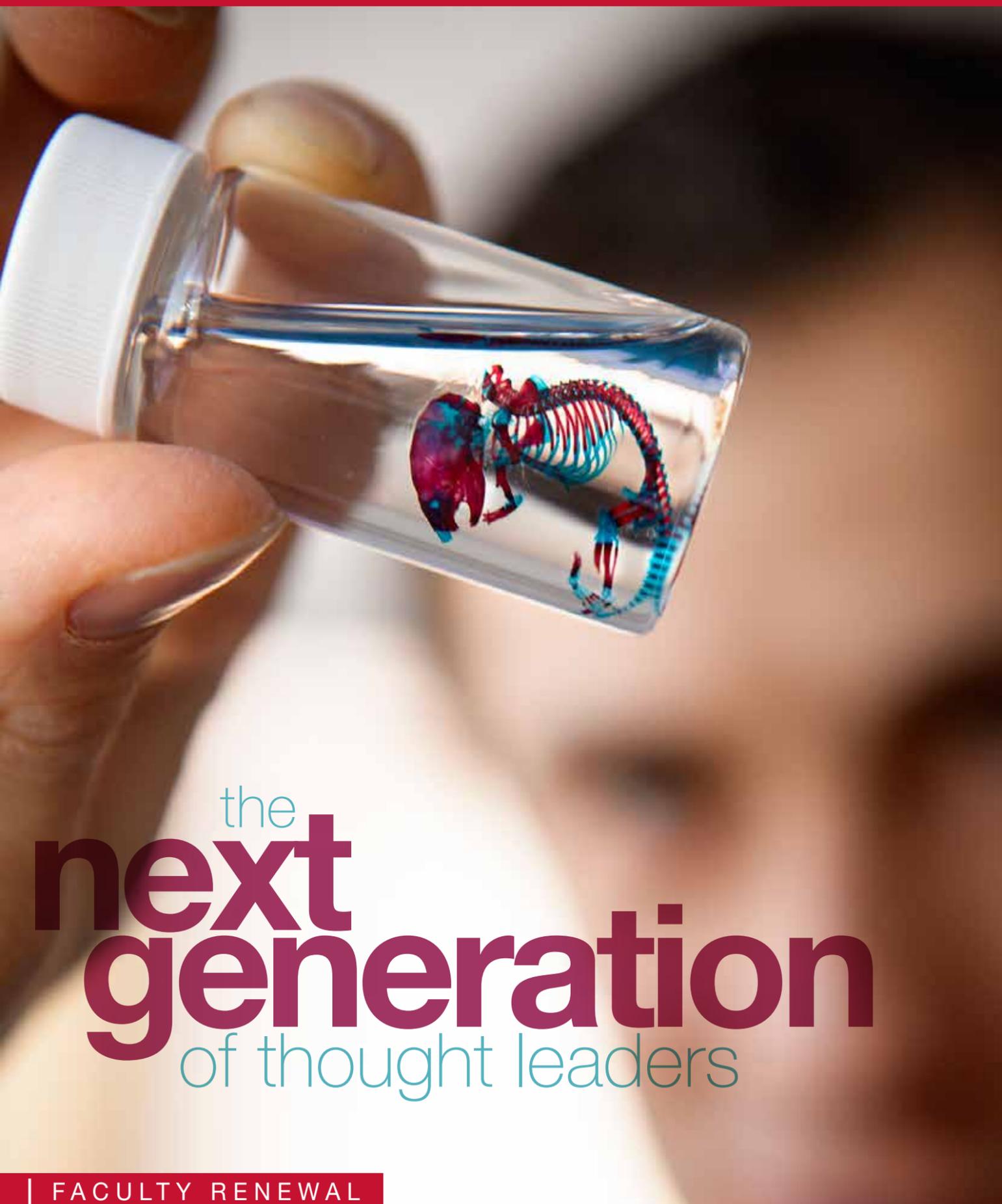
involved an eight-week stint in remote regions of Nepal that required large animal clinical skills, psychological and physical stamina, and a great measure of patience. Jackson dedicated approximately seven weeks of the experience to field time, collecting data in Shey Phoksumdo National Park. The remaining time was dedicated to travel to and from the field site, sample analysis in Kathmandu, and a trip to the Syangboche Yak Breeding Station with Nepalese veterinarians and students of the Himalayan College of Agriculture Sciences and Technology. Jackson travelled by bus to Beni, a small market town at the junction of the Kali Gandaki and Myagdi Rivers in Western Nepal. From Beni, he walked for approximately 45 days, moving from Dolpo to Tarakot, through Tarap, and then to Phoksumdo Lake as he circled back to Beni. Employing porters, a guide, and a translator, his group was fully self-sufficient, carrying and purchasing supplies as needed while on the move.

"To access herds and herders for my research, we walked about 13 miles per day for 7 weeks, mostly above 10,000 feet in elevation," said Jackson. "Though the route was remote, trails were well documented; they ran through established settlements and were used daily by local people."

As Jackson travelled between villages and encountered yak caravans and grazing herds, he executed his study: collecting blood samples (with consent) from nearly 300 yak he met along the way; conducting complete physical exams of these animals; and characterizing livestock management practices, human/livestock interaction, and assessing the prevalence of clinical signs suggestive of human Brucellosis in households, all documented quantitatively with a questionnaire.

Simple changes in food handling, preparation, and animal husbandry can have a significant impact on the incidence of zoonotic disease like Brucellosis in people and animals.

"In the United States, we are fortunate to have systems in place that reduce the risk of disease transmission," said Jackson. "In rural Nepal, knowledge about basic food safety and disease transmission is lacking. Small, simple changes based on the identification of risk stand to make a large impact. I am taken by integrative approaches to conservation medicine in Asia that address the role of efficient and safe food animal production systems in the mitigation of poverty, the sustainable use of rangelands, and the promotion of ecosystem health. I hope my research contributes to this body of knowledge while highlighting easy, cheap solutions that improve lives."



the
**next
 generation**
 of thought leaders

A new wave of incoming professors is preparing to carry the College's torch through the next generation. Over the last few years a rising tide of impending retirements threatened to leave a human deficit in its wake. Last summer, department chairs across the College convened to form a five-year faculty needs forecast and a plan to fill upcoming vacancies. Realizing the first of the plan's initiatives, the College welcomed the inaugural class of new faculty this fall—talented recruits who will form the core of the next generation of the College's academic leaders.

Dr. Gerlinde van de Walle joined Baker Institute for Animal Health and the Department of Microbiology and Immunology as an assistant professor of viral pathogenesis. Her lab studies how herpesviruses, common viruses that can hide in a host for years before attacking, switch from passive to aggressive. Such insights could help develop new antiviral drugs that keep herpesviruses passive and patients symptom-free. Her lab also works to unlock the full potential of adult stem cells to help horses and humans heal from injuries and investigate the cancer-causing role of mammary gland stem cells in dogs and cats.

Dr. Katie Kelly joined the Department of Biomedical Sciences as an assistant professor. She studies the effects of chemicals the body releases during inflammation on the heart's ability to function. This can be a problem for people with chronic systemic diseases such as HIV or obesity who may suffer recurring or chronic inflammation that puts them at greater risk for heart problems. Dr. Kelly seeks protective strategies to keep hearts working well despite frequent inflammation in other areas of the body.

Dr. Sergiy Libert joined the Department of Biomedical Sciences as an assistant professor of cell and molecular biology. His research is focused on the molecular biology of aging. Since advanced age is the biggest risk factor for numerous diseases and disorders, he believes that by understanding the fundamental processes of aging we will learn a great deal about age-related diseases such as cancer and neurodegeneration. Research in his laboratory aims to spark new ways to extend the healthy portion of human lifespans and to blunt age-related diseases.

Dr. Bethany Cummings joined the Department of Biomedical Sciences as an assistant professor studying what causes obesity, insulin resistance, and diabetes and strategies to help treat them. Her work illustrates the role weight-loss surgeries play in resolving type-2 diabetes. By discovering the cellular mechanisms behind the relationship between these surgeries and improved metabolism, her lab hopes to spark new therapies for managing obesity and treating type-2 diabetes.

Dr. Andrew Miller, the Anne Groot Sesquicentennial Fellow, joined the Department of Biomedical Sciences' Section of Anatomic Pathology as an assistant professor of pathology. His laboratory predominately studies the cellular mechanisms underlying neurologic disease, especially focusing on nervous system neoplasia, in companion animals. Such discoveries may help improve options veterinarians and human doctors have in treating the underlying pathogenesis of neurologic disease.

Dr. Joshua Chappie joined the Department of Molecular Medicine as an assistant professor and the Nancy and Peter Meinig Family Investigator in the Life Sciences. His lab studies how bacteria defend themselves against bacteria-infecting viruses. By understanding bacterial defense systems, he hopes to help develop new ways to weaken these defenses and fight antibiotic-resistant infections in humans and animals.

molecular medicine's rising stars



The College's Department of Molecular Medicine is full of people eager to get down to the nitty-gritty of what makes cells tick. By viewing proteins as the working parts of molecular machines, they are able to make fundamental discoveries about basic biological mechanisms needed to understand and address diseases. The department's three recent recruits have hit the ground running, launching research programs that are already unveiling the underpinnings of disease. Please enjoy these snapshots of their work.

Dr. Joshua Chappie, the Nancy and Peter Meinig Family Investigator in the Life Sciences, is looking for new ways to fight bacteria that can beat the rising tide of antibiotic resistance.

"Bacteria are evolving to the point where we have nothing to treat them," said Chappie. "A bacterial strain recently emerged in New Zealand that was resistant to every known type of antibiotic. Thousands have died due to antibiotic resistance in the U.S. alone. As we run out of antibiotic options, we're revisiting alternative ways to deal with resistant strains using bacteria's natural predators: bacteria-attacking viruses called bacteriophages. Past medical thinkers have dreamed of this idea. We're looking for a way to make it work."

Ever the wily evolvers, bacteria have developed defense systems to combat bacteriophage infection. Chappie dissects these defenses at the molecular level, examining how the underlying bacterial proteins assemble, function, and change shape.

"These elegant machines are found in a wide range of antibiotic resistant bacteria and are composed of a unique set of proteins unlike anything else in nature," said Dr. Chappie. "This makes them interesting drug targets. If we can understand how these defenses work, we can find ways to inhibit them and make bacteria more susceptible to bacteriophages."

Because the protein machines he studies target modified DNA, Dr. Chappie also envisions harnessing their power for purposes outside bacteria, such as testing modified DNA patterns within and across genomes.

"For example, you could engineer these systems to screen for changes in DNA patterning during essential biological processes like cell differentiation," said Dr. Chappie. "Cornell is the ideal place to study these

complex systems: I'm constantly interacting with experts in nucleic acid biochemistry through my participation in the DNA Replication, Repair, and Recombination group and have access to incredible facilities such as the Animal Health Diagnostic Center, providing insight into pathogenesis and therapeutics, and the Cornell High Energy Synchrotron Source, with equipment that allows me to push forward my structural studies. I've also recently begun working with Dr. Rodrigo Bicalho here in the College of Veterinary Medicine whose ongoing efforts aim to use bacteriophages to treat infections in cattle. These amazing resources and potential for collaboration were key factors in my decision to come to Cornell."

Dr. Toshi Kawate ventures where few have tread in a quest to understand mechanisms underlying incurable neurodegenerative and cardiovascular diseases and devastating conditions like arthritis, asthma, and chronic pain.

"Many suffer from these problems but we know little about how they happen," said Dr. Kawate. "Without knowing how the proteins involved are built, you can't know how they work normally or in diseases. This information is crucial for designing new drugs."

In a field where most study proteins from prokaryotes—bacteria and other organisms with no cell membranes—Dr. Kawate is one of the few to brave the challenges of exploring proteins from eukaryotes, which are found in humans and other animals. Eukaryote's proteins are more complex and varied, making them much harder to isolate and study.

To address the challenges, Dr. Kawate focuses on proteins within cell membranes, which are particularly difficult to work with because they are insoluble, so isolat-

ing and manipulating them requires special chemicals. Yet they are especially valuable to understand: 30 percent of human proteins are membrane proteins, and they are directly involved in the cellular signaling that pain, inflammation, and neurological diseases entail.

Of the 90,000 protein structures science has mapped so far, fewer than 100 are membrane proteins from eukaryotes, according to Dr. Kawate.

"You need extra tricks to work on membrane proteins, but studying them is crucial to understanding human disease, especially if you want to design effective drugs," said Dr. Kawate. "Pain, inflammation, and neurological diseases are just a few of the results of dysregulated cell-to-cell communication. Understanding how cell membrane proteins let cells communicate is crucial to overcoming these problems."

Dr. Carolyn Sevier

As free-radical-forming poisons pile up in our environment and bodies, antioxidants may ward off some of their harmful health effects. But free radicals have a silver lining, says Dr. Sevier, and too many antioxidants can do harm. With a \$1.4 million grant from the NIH, her lab launched a five-year study in January 2014 to explore why this is so.

The project could change preventative strategies and treatments for the many diseases associated with free-radical induced damage, including age-related illnesses, neurodegenerative diseases like Alzheimer's and Parkinson's, and some forms of cancer.

Like how food spoils when exposed to oxygen, cells also suffer oxidative stress when exposed to more reactive oxygen ions called free radicals than they can handle, which cells normally counteract in part with certain vitamins and minerals dubbed antioxidants.

EYES On equine ophthalmology

Keeping an eye on the frontiers of ophthalmology has served Dr. Eric Ledbetter and his patients well. When a new technique called in vivo confocal microscopy emerged in human medicine, letting doctors take pictures of living eyes in microscopic detail without a scratch, he adapted it for his veterinary patients at Cornell University's Hospital for Animals.

In doing so, the College's associate professor of ophthalmology discovered two new infectious diseases of the eye that had never been described before. The first, ocular surface canine herpesvirus infection, appears as a symptom in some of the mature dogs infected with canine herpesvirus. The second, a pathogenic free-living amoeba, infects cats' eyes.

While Dr. Ledbetter works to study and treat these novel diseases in the clinic, he continues pushing the frontier of veterinary ophthalmology in other species. As the first to use in vivo corneal confocal microscopy on horses, he is pioneering a novel clinical research program to develop this non-invasive imaging technique in a species particularly poised to benefit from it.

"Horses have very prominent eyes and live in environments that put their eyes at risk of trauma," said Dr. Ledbetter. "They get a lot of eye diseases and other problems for which corneal confocal microscopy will be particularly useful in equine veterinary medicine."

Using an in vivo corneal confocal microscope with a focal depth of 1.5mm he adapted for use on horses, Dr. Ledbetter can repeatedly examine and take images all the way through a horse's 1mm-thick cornea. This transparent shield is the eye's

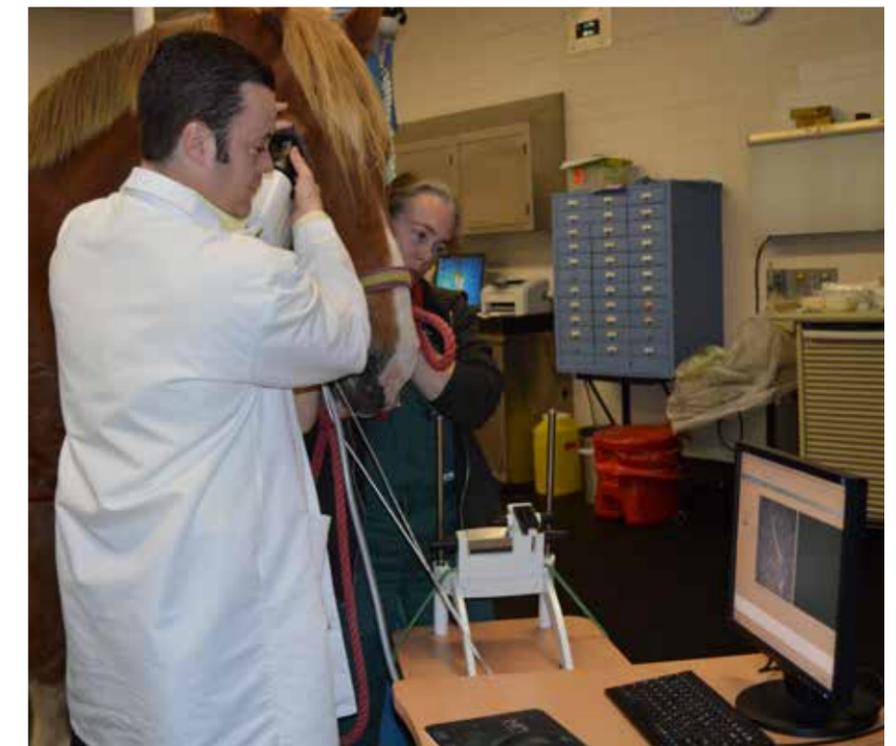
first line of defense and a frequent site of injury and infection.

Unlike traditional methods of eye imaging, confocal microscopy gets immediate results without needing a biopsy or any other kind of surgery. Dr. Ledbetter uses it in the clinics to find tumors, scratches, foreign bodies, infections, immune-mediated ocular diseases, and other eye problems.

Horses frequently get fungal infections on the cornea. This has traditionally been a hard problem to diagnose—regular culturing methods of diagnosing infections can take 10 to 14 days for results to come back, creating long treatment delays. By collecting images of infected horses' eyes and comparing them to results from normal methods of diagnoses, including cytology and histopathol-

ogy, Dr. Ledbetter is developing and validating quicker non-invasive techniques to image and diagnose eye problems accurately using confocal microscopy.

"With any new technology like this, you can take a lot of images but no one knows for sure what the images represent," said Dr. Ledbetter. "You might have an idea, but in the research stage you have to validate every hunch. By concurrently using both new and preexisting techniques, we're gathering evidence and paving the way so that in the future, veterinarians can definitively diagnose eye diseases in horses with only this new technology, minimizing impact on the eye itself and saving time to get patients treatment faster."





USE YOUR words

Course
prepares
students to
communicate
well

A communications skill-building initiative that began with one session offered during orientation in 2003 has blossomed into a series of interactive learning opportunities that are strategically presented during the four-year veterinary program at Cornell. Dr. James Morrissey '92 conceived of and leads the course, after attending the inaugural Train the Trainers "core communication skills" seminar sponsored by Bayer Animal Health.

"Studies have shown that better communication results in better health outcomes," said Dr. Morrissey, who is a senior lecturer in the section of zoological medicine. "There is a better chance of getting an accurate diagnosis and the likelihood that clients will adhere to the treatment regimens that we recommend improves with more effective communication. Estimates suggest that veterinarians conduct 100,000 client interviews over the course of their career. If we do them well, we will be more successful professionally, and we'll find more satisfaction and enjoyment in our life's work."

The multi-year initiative begins with students learning interpersonal judo—techniques that will help them communicate effectively with people who bring different perspectives to the discussion. During the first few hours of the program, while students are meeting members of

their tutor groups, they also begin conversations about group dynamics and specifically communicating in a small group environment. In the second year, students relive the cases discussed during first-year tutor groups in role plays with actors who have assumed the "client" persona, people who may be worried about their pet or angry with the situation or both.

"The mental mindset of the people in any conversation is a determining factor in the approach you take," said Dr. Morrissey. "I teach students that they need to be aware of the client's emotional statuses as this can affect their ability to process the information to make the best decision for their animal. Learning to recognize and expressing empathy to their clients' non-verbal cues can be instrumental in this process."

In the third year, the program introduces Group Objective Standardized Clinical Evaluations to the process. Sessions find the students in the College's simulation center working with the simulation dog. In this setting, the dog has collapsed and the veterinarian must work with other veterinarians, technicians, and the

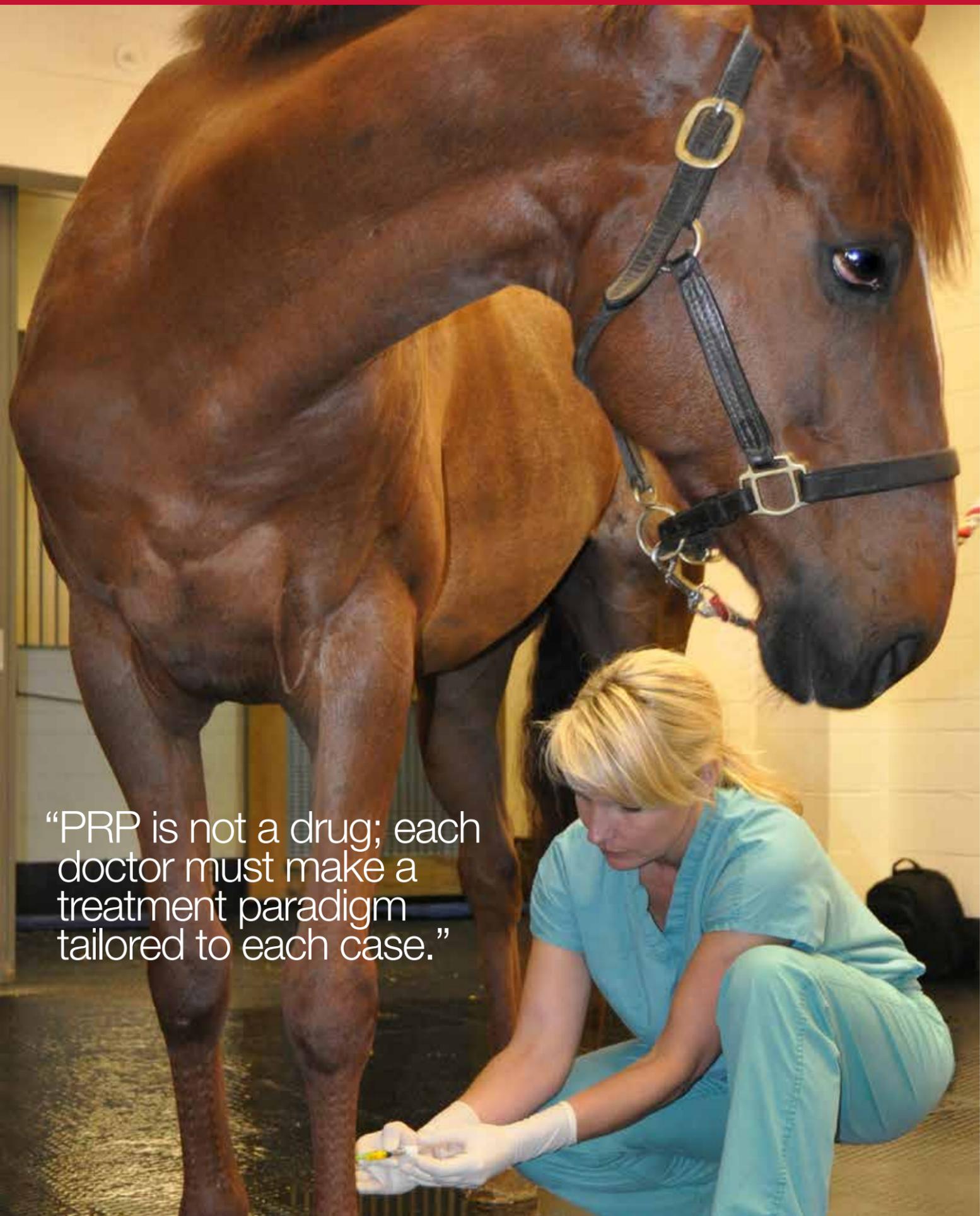
owner to obtain both the triage and complete histories, diagnose, treat, and ultimately discuss the euthanasia process. Each student takes turns being the veterinarian, building on all previous interactions between the various participants.

The program culminates during Senior Week, when students review the four-year experience, learn about the importance of and options for discussing finances with clients, and explore the difficult topic of communicating in the event of a medical mistake.

"We are preparing them for real life," said Dr. Morrissey, whose whiteboard is covered with options for improving his own communication skills in the classroom. "Evidence has taught us that how veterinarians work with pets is the fourth most important skill on a client's list. Before that, clients want to be listened to, treated as an individual with a unique challenge, and communicated with respectfully. Some students understand this intrinsically. They get it immediately and are usually good at it. Others may have been swayed by the pervasive myth that communicating is easy. We seem to reach these people when we start working with actors."

If that doesn't work, though, Dr. Morrissey adapts the program, which has been built with maximum flexibility so the individual needs of those in each of the sessions can be met. Gaining expertise in this area by attending seminars and workshops presented by Bayer, Zoetis, and the Institute for Healthcare Communication, Dr. Morrissey has become a respected thought leader in the field himself, recently returning from a conference in Holland where he was an invited speaker.

"The art of communicating has been classified as a non-technical skill," said Dr. Morrissey. "Like any skill, though, it needs to be practiced and thoughtfully considered and practiced some more. This series provides the opportunity for our students to do that."



“PRP is not a drug; each doctor must make a treatment paradigm tailored to each case.”

Lighting the way

FOR RISING REGENERATIVE MEDICINES

Since the mid-1990s doctors have used platelet rich plasma (PRP) therapy to help heal damaged tissue, from teeth to tendons to hair and skin. Over the last few years the treatment has exploded in the sports medicine scene, reviving the prowess of amateur athletes and sports stars such as golf guru Tiger Woods, basketball big-shot Kobe Bryant, and many racehorses. Yet little is known about how PRP works.

A Cornell collaboration has debunked several prevailing ideas about PRP and is helping establish guidelines for physicians and veterinarians seeking to design PRP treatment plans. As one of only two labs in the U.S. conducting deep investigations into how PRP works, equine surgeon Dr. Lisa Fortier's team at Cornell's College of Veterinary Medicine has partnered with leading human sports medicine specialists Drs. Scott Rodeo in Weill Cornell Medical College, Brian Cole of Chicago's Rush Memorial Hospital, and Dr. Tom Minas of Boston's Brigham and Women's Hospital.

“PRP is not a drug; each doctor must make a treatment paradigm tailored to each case,” said Dr. Fortier. “My lab works with doctors to answer common questions about how to design treatment plans. We're also studying what components of blood vary in PRP samples, characterizing what we believe to be the most effective kind of PRP, and finding ways to make it.”

To administer PRP therapy, a doctor takes a vial of the patient's blood, spins it in a centrifuge to separate platelet-rich plasma from most other blood components, and injects the concentrated platelets into the injury site. Platelets harbor growth factors, which they release to stimulate tissue renewal.

Concentration and type of platelets in samples from the same individual can vary depending on several factors, such as recent meals and illness. Most PRP samples contain some other blood components that do not get separated, especially white blood cells, which help fight infections. Thinking that this meant more is better, several companies have touted the high number of white blood cells their centrifuge systems are designed to allow in finished PRP.

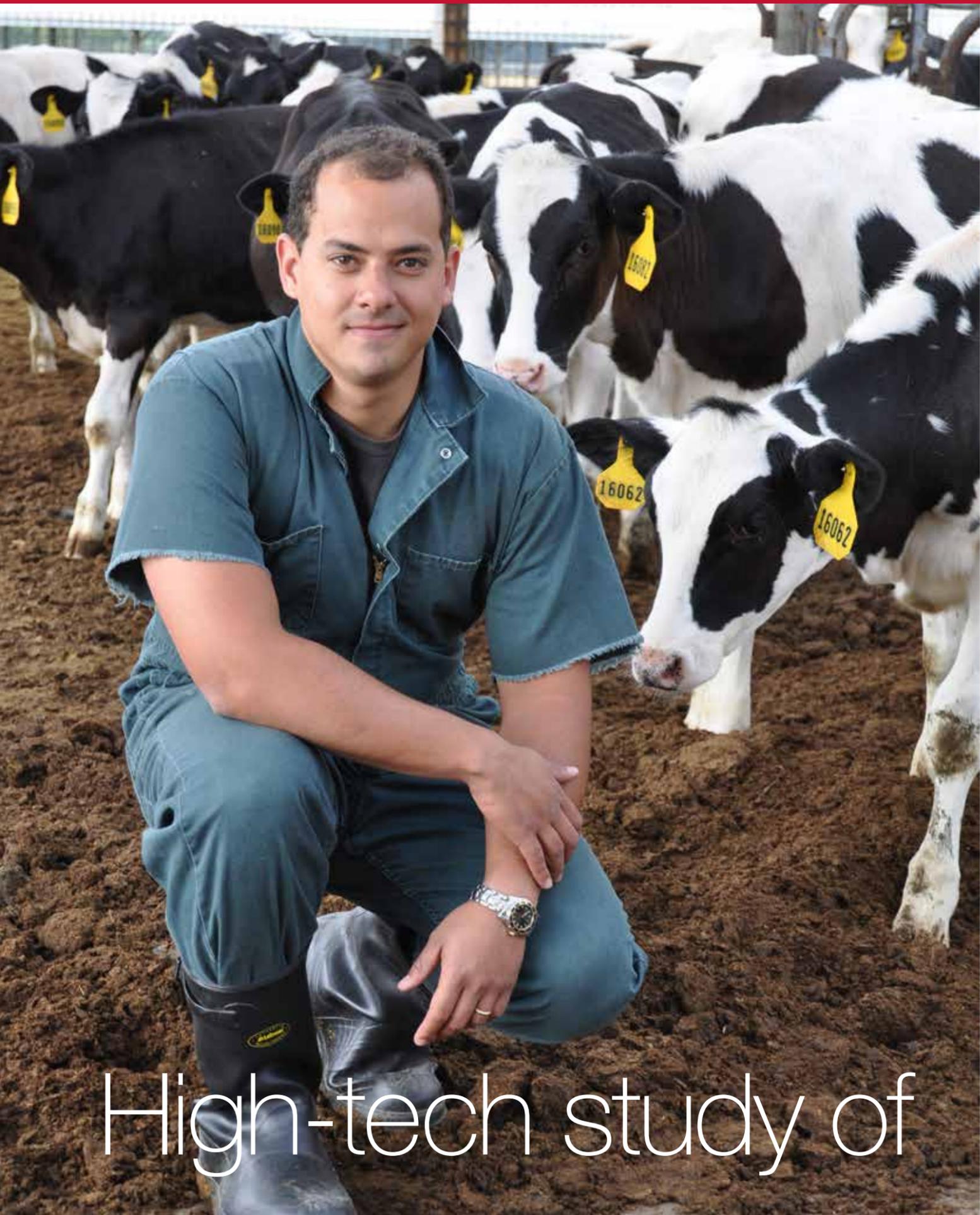
Debunking this popular assumption, Dr. Fortier's lab and collaborators found that the most effective PRP samples are those with the lowest concentrations of white blood cells.

“This sent a lot of the companies scrambling,” said Dr. Fortier. “It was a huge paradigm shift.”

Upending yet another conventional idea, Dr. Fortier's collaborative team also corrected the notion that PRP works directly on joints. They found evidence suggesting PRP works mainly on joint capsules—thin fibrous sacs that produce the cushioning fluid. PRP decreases inflammation in the joint capsule and stimulates normal fluid production to lubricate the joints.

The team also found that PRP treatment works better than steroids in knee joints, a common equine injury site. Current investigations are exploring how PRP stimulates the body's stem cells to migrate toward the site of PRP injection. They are also working to identify a universal donor type for PRP, analogous to the universal donor blood type O. They envision one day being able to collect and bank PRP samples that could be used to quickly treat any injury.

“I anticipate PRP treatment will explode in the horse industry, because there's so much scrutiny on steroid use,” said Dr. Fortier. “Natural therapies like PRP may soon be the only treatments available. PRP is as effective at decreasing pain and increasing recovery, plus it lasts longer.”



High-tech study of

Mastitis, a highly prevalent dairy cow disease, strikes fear in the hearts of many farmers. The udder infections it entails can ruin cows' health and productivity, wreak economic havoc on farms worldwide, and cost the dairy industry billions of dollars per year.

Now with nearly \$500,000 over three years from the U.S. Department of Agriculture's National Institute of Food and Agriculture, faculty at Cornell's College of Veterinary Medicine will employ a new technology that is revolutionizing bacteriology to examine mastitis in ways it has never been studied before.

"Mastitis is the most important disease in dairy cows," said principal investigator Dr. Rodrigo Bicalho, assistant professor of dairy production medicine. "Our study will use techniques that were not available until very recently to learn more about mastitis than previously possible. We expect that our results will change perceptions of clinical mastitis, leading to reevaluation of treatment and prevention strategies."

Finding the culprits causing mastitis once required culture techniques that isolated and grew bacterial strains in the lab. But this could only find bacteria that grow in oxygenated environments (aerobic). It could not find an-

aerobic bacteria, which grow in the absence of oxygen or bacteria that researchers don't know how to culture (which is 99 percent of all bacterial species). Thus, it was long assumed that mastitis was caused by a single bacterial species growing in the mammary gland and that healthy milk was bacteria-free.

Dr. Bicalho's lab was the first to prove that wrong in 2012. Using microbial metagenomics, which extracts and sequences DNA from all cells in a milk sample, his lab showed a whole new world of anaerobic and aerobic bacteria inside the mammary glands of both healthy and diseased cows. This opened the door to the possibility that mastitis can be caused by a combination of several different species of bacteria simultaneously.

In the new study, Dr. Bicalho will use metagenomics to target a fingerprint-like gene called 16s-rRNA. Each bacterium has one to 15 copies of these genes, which contain valuable information that can identify species. Dr. Bicalho's team will use this gene to analyze the DNA of bacteria and measure the relative proportion of each species of bacteria present.

This study will use similar techniques to explore the newly discovered bacterial world in milk and how it relates to mastitis. Dr. Bicalho and his team will collect samples before, during and after cows contract mastitis. This will let them map the baseline bacterial ecosystem of normal milk, see the disturbance in that ecosystem when a mastitis-causing pathogen arises, note any other opportunistic pathogens that come in during infection, and observe how bacterial populations return to normal if infection passes.

Major aims of the study include improving the prudent use of appropriate antibiotics and refining metagenomics techniques into new tools to diagnose mastitis and predict prognoses. To measure how the curative power of various antibiotics relates to the bacteria present, Dr. Bicalho and his team will take milk samples from cows in the field that have contracted mastitis before they treat with antibiotics. They will take follow-up samples from those cows over time to measure the extent and timing of recovery.

"This study has huge potential for developing new understanding of how mastitis is caused," said Dr. Bicalho. "We are developing ways to use new metagenomics technology to better diagnose and treat this devastating disease that will help reduce its health risks and economic burdens."

mastitis underway

Veritas

a public/private partnership taking online continuing education to a new level

Knowledge curation is playing an ever-increasing role in determining consumption of online content.

The pace at which information is created in today's society guarantees that a diploma is a starting point and that efforts of individuals must be directed at determining value of online knowledge. This reality has changed the educational needs of busy practicing veterinarians who increasingly need access to high-quality, peer reviewed, engrossing continuing education programs created and/or curated by leaders in the field.

A groundbreaking partnership between Cornell University College of Veterinary Medicine, Texas A&M College of Veterinary Medicine & Biomedical Sciences, and Zoetis is transforming veterinary continuing education. Known as Veritas, this unique online educational experience offers veterinarians and veterinary paraprofessionals convenient, interactive web-based learning opportunities that use the latest advances in educational technologies. Veritas delivers the universities' expertise in medicine and teaching using Zoetis' know-how in information delivery and customer service.

"Veritas addresses the need for a paradigm shift in continuing education by providing practitioners with unique online opportunities to stay current with the latest discoveries in veterinary medicine, hone their clinical skills, incorporate current medical advances into decisions that affect patient care and build more profitable practices," said Dr. Meg Thompson, Director of Continuing Education, noting that Veritas courses are offered for certified continuing education (CE) credit in all states, providing a route for veterinarians to supplement live event credits and provide opportunities for staff in-service training.

Using a peer-reviewed and case-based approach to education, Veritas courses are designed to be a more immersive and interactive experience than other online educational offerings. The course catalog currently includes multi-module experiences such as CPR: Basic Life Support, Canine Hyperadrenocorticism, Bovine Respiratory Disease Complex, Canine Dental Extractions, Introduction to Physical Rehabilitation, and Epidural Anesthesia and Analgesia. Shorter branching case studies are also being produced monthly on topics such as the coughing dog, parasitic disease and anemia. These interactive case studies provide a "digital" hands-on approach to learning that extends beyond didactic methodology and enhances under-

standing by allowing learners to test and demonstrate their knowledge throughout the learning process.

Among Veritas offerings is the small animal CPR curriculum. "CPR: Basic Life Support," the introductory course, is the first-ever certified CPR course for small animals. The course is authored by Cornell's Dr. Daniel J. Fletcher. It teaches the evidence-based clinical CPR Basic Life Support (BLS) guidelines developed by the RECOVER Initiative (acvecc-recover.org), and is endorsed by the Veterinary Emergency and Critical Care Society (VECCS) and the American College of Veterinary Emergency Critical Care ACVECC. Participants who complete the course will receive a diploma officially documenting certification in BLS by ACVECC. The course and certification is available exclusively through Veritas. CPR: Advanced Life Support and Pet Owner CPR will be added to online course offerings in early 2014.

Upcoming CE releases include Quality Milk Production, additional cardiology case studies, as well as hematology case studies. Starting early in 2014, image-based, mobile-friendly, "what's your diagnosis" challenges will be offered on a regular basis.

Additionally www.VeritasDVM.com offers Perspectives in Veterinary Medicine, a continually growing collection of stories written by Dr. Donald F. Smith, Dean Emeritus of the Veterinary College. Through these stories of people and events historical and current, Dr. Smith examines the profession's past while anticipating the future.

To learn more, please visit www.VeritasDVM.com.



Endowment receives booster shot

For Karen and Clement Arrison, combining traditional medical approaches with holistic therapies when their beloved dog had just weeks to live was a rewarding

experience. DeeDee, a Briard, beat the odds and survived months longer than predicted, living life to the very last days with quality and dignity. Although DeeDee's will to live was eventually overcome by osteosarcoma, a type of bone cancer, her memory lives on through the DeeDee Arrison Holistic and Integrative Medicine Seminar Series. Established in 2010, the endowment received a booster shot in October, with an additional \$50,000 gift from the Arrisons.

"We were particularly excited this year to learn that veterinarians participating in the 2013 seminar are eligible for continuing education credits," said Karen Arrison. "This was a big step. An even bigger step, though, is the College's decision to formalize Complementary Therapies in Veterinary Medicine, a course that will introduce students to the applications, validation, and controversies associated with the many forms of complementary medicine. These are very exciting announcements. It is our hope that with this additional gift, the seminar series will have the resources needed to attract the world's leading authorities in holistic medicine and encourage lifelong learning."

Each year, resources from the endowment are used to present continuing education in holistic medicine. The one-day event features workshops offered by leading authorities in the subject matter, lunch, as well as presentations from College faculty who specialize in related medical approaches.

"The 2013 lecture confirmed the value of combining a variety of approaches for the benefit of the patient,"

said Arrison. "Dr. Marsden was trained in what we refer to as traditional, Western medicine. As a practitioner, he quickly learned that he needed to expand his knowledge, and he explored holistic approaches. He started his career with his 'Western hat' on. When he applied the holistic theories, he felt like he was wearing his 'Eastern hat.' Today, he says he just wears a '10-gallon hat,' which combines both and is much more efficient. Together, they are synergistic. It is no longer an either/or decision. It's a this and that decision. Veterinarians have a bigger toolbox on behalf on their patients."

Marsden, the 2013 DeeDee Arrison Holistic and Integrative Wellness Seminar Series speaker, is one of the chief educators of veterinarians worldwide in the use of complementary and alternative therapies. His textbook, *Manual of Natural Veterinary Medicine*, published by Elsevier in 2003, has been translated into multiple languages, and is a leading resource worldwide.

In 2012, featured presenters included Cornell faculty Drs. Andrea Looney and Joseph Wakshlag, and Gretchen Avery, a Reiki Master Teacher. In 2011, Dr. Carolina Medina explored various aspects and the therapeutic benefits of acupuncture. The inaugural seminar, in 2010, featured Dr. Susan Wynn, of the veterinary nutrition and integrative medicine service with Georgia Veterinary Specialists, and Dr. Kevin Haussler, an assistant professor of complementary and alternative medicine at Colorado State University.

Every year's presentation has also featured a concert by the Rising Stars of the Stradivari Society. Well-socialized pets are invited to the concert, which has featured various violinists, including Timothy Fain, Susanne Hou, Augustin Hadelich, and Anna Lee playing classical music and accompanied by pianist Robert Koenig. The Arrisons, who are great music aficionados, played recordings of classical violin during DeeDee's radiation sessions and noted the music's calming effect.

"Our family has a long, personal history with music as a valuable tool in the healing process," said Arrison, noting that DeeDee and other members of her family have found comfort and peace during treatment and recovery through music.

class notes

Class of 1931

Elmer Woelffer, DVM
Deceased 1995

As a follow-up to the July 2013 Class notes in which Dr. Woelffer's nomination for the 2013 Cattle Production Veterinarian Hall of Fame was announced, Dr. Woelffer was posthumously inducted into the Cattle Production Veterinarian Hall of Fame (CPVHOF) October 10, 2013, recognizing his exceptional contributions to the practice of veterinary medicine in the beef and dairy cattle industry.

Class of 1955

Joseph (Bud) Stuart, DVM
Santa Barbara, CA

From the age of 8 or 10 Dr. Bud Stuart knew he wished to be a veterinarian. He was the kid in the neighborhood whom they called to help tiny chipmunks, squirrels, birds, rabbits, etc. who were in distress. After earning his veterinary degree, he tackled nearly every task a veterinarian can be active in, including serving as a large animal ambulatory intern at Cornell and a practitioner in New York and Virginia. He was also a member of the USAF Veterinary Corps, working in areas such as public health and food inspection. He was the first veterinarian to be named the Director of their Animal Care Facility—everything from mice to monkeys—at Georgetown University Medical College. He was able to purchase a 35-acre horse farm outside of D.C. in the most exclusive and richest foxhunting country in the U.S.A., where he became an accomplished horseman and a cross country racer and Virginia champion in 1987 and 1989. Dr. Stuart is proud to say he has been gifted with an idyllic life, due largely to his choice of profession. For this he offers up a small prayer of thanks to God each and every day.

Class of 1958

Miller A. Cook, DVM
Carthage, NY

After sharing his knowledge, love, and passion for veterinary services at the Carthage office of Countryside Veterinary Clinic since it opened in October 1990, Dr. Miller A. Cook has retired. Dr. Cook came to the twin villages in 1959. He had practiced in Oswego, N.Y., with Dr. Myron L. Dimon, prior to taking over the practice of Dr. William E. Carroll. "I'm sad to see him go. He is an institution in the north country," Dr. Peter G. Ostrum said. "You'll never find anyone who loved his job more or was more loved by his clients."

Class of 1962

Neal Brown, DVM
Greenfield, NH

Greetings, Sistren and Brethren of our venerated college! It's been quite a year for this old galoot! Last February, after serving seven years as the official rat catcher for the town of Greenfield, N.H., I could no longer abide the townfolk's cavalier attitude towards the suffering of these noble rodents. So, I quit and returned to private practice—and not just your run-of-the-mill affair. Indeed, I have established the first veterinary practice in N.H. devoted exclusively to Companion Rat Medicine (CRM).

Although the pace of this new venture has been a tad slow, I remain confident that CRM is the wave of the future. (The supply of these lovable brown buggers is practically bottomless). At the moment I'm in the process of franchising this revolutionary new practice model countrywide. Want to get in on the ground floor? Think it over; Rattus compadrius and CRM could be your ticket to a secure financial future.

I would welcome your feedback on this revolutionary practice idea. You can write me at PO Box 184, Greenfield, NH 03047 or email me at neal.brown@glsynthesis.com. Be happy in your work. Banzai!

Class of 1975

Stephen B. Adams, DVM
West Lafayette, IN

Stephen Adams, professor of large animal surgery, received the Raymond E. Plue Outstanding Teacher Award during the Purdue University College of Veterinary Medicine's Fall Conference. The award was created to reward outstanding teachers who make an extra effort to influence and inspire students. The recipient is selected from nominations made by alumni in the three most recent graduating classes. Adams joined the PVM faculty in 1978. He completed an internship and residency in large animal surgery at Purdue. Board certified by the American College of Veterinary Surgeons, Adams served as president of the ACVS in 2010.

Class of 1978

Steven Schultz, DVM
Buffalo, NY

Dr. Schultz sold his companion animal hospital in 2012. He traveled for a while with his wife, house-sitting for a beautiful Border Collie on St. John, U.S. Virgin Islands. Now he is doing a veterinary in-home hospice practice and enjoying it very much.

Class of 1985

Susan R. Kerr, DVM
Mount Vernon, WA

After 17 years in Klickitat County, which has three dairies, Susan Kerr has taken on the responsibility for advising dozens of dairies in five counties: Whatcom, Snohomish, San Juan, Island, and Skagit. She was director of Washington State University Klickitat Extension; now her title is WSU Northwest livestock and dairy extension specialist.

Kerr grew up in a small dairy cattle community in upstate New York, near where her grandparents were involved in milk marketing and designing a cheese factory. After earning her veterinary degree, Kerr spent most of her time as a veterinarian working on small-dairy herd

health. Wanting to do more than "to hand people a bill for helping them," Kerr said, she entered a doctoral program at Kansas State University to study education. After completing her doctorate in 1995, she moved to southern Washington to accept the top job with WSU-Klickitat County Extension, where she also served as a 4-H educator.

Class of 1991

Frederick Baum, DVM
Arlington, VT

In 2013 the world, literally, has become a better place for everyone involved in the profession of veterinary medicine with the appointment of Dr. Frederick Baum to the executive director chair of the VIN Foundation. As the charitable arm of the Veterinarian Information Network, the VIN Foundation's mission is to provide support for and help to over 50,000 veterinarians in transition across the country and around the world. Not too bad an accomplishment for an old Hartwick boy! Dr. Baum is owner of Arlington Animal Hospital in stunningly beautiful southwestern Vermont.

Gregory R. Lisciandro, DVM
San Antonio, TX

Dr. Lisciandro recently published a new textbook, "Focused Ultrasound Techniques for the Small Animal Practitioner," that documents a novel approach to small animal ultrasound.

Richard Orzeck, DVM
Trumansburg, NY

Dr. Richard and his dear wife, Theresa, recently had the rare opportunity to participate in an overland birding and mammal expedition to the West African nation of Angola. During the 18 days of their journey, they observed 529 species of birds, including all of Angola's endemics and many near-endemics shared only with Namibia, Zambia, and the Democratic Republic of Congo. Highlight species included Brazza's martin, the white-headed robin-chat, Braun's brushshrike, Swierstra's francolin, and gabela

WE HOPE YOU'LL JOIN US!



Join your Cornell friends on campus to relive old memories and make new! Give your friends a call and make plans now to attend.

For more Reunion 2014 information, visit the College's website at www.vet.cornell.edu/reunion or watch your mail.

Please reserve your hotel room soon. All room blocks are open to ALL Cornell University alumni, from across campus. Reservations will be taken on a first-come, first-served basis. On campus housing will be available in Cascadilla Hall. Reserve a room when registration opens in March 2014.

HOTELS WITH BLOCKS	RESERVATION#	PROMO CODE
Best Western (39, 44, 49, 54, Vet Only) 1020 Ellis Hollow Road ~ \$179	607-272-6100	Cornell Reunion
Comfort Inn ~ \$159 356 Elmira Road	607-272-0100	Cornell Reunion
Country Inn & Suites ~ \$229 1100 Danby Road	607-256-1100	CU Reunion
Courtyard Marriott ~ \$239 29 Thornwood Drive	866-541-3600	Cornell Reunion '14
Econo Lodge ~ \$129 2303 N. Triphammer	607-257-1400	CU Office of Alumni Affairs
Fairfield Inn & Suites by Marriott ~ \$249 359 Elmira Road	800-228-9290	CRGCRGA (Queen Rm) CRGCRGB (King Rm)
Hampton Inn ~ \$249 337 Elmira Road	607-277-5500	CUA
Hilton Garden Inn ~ \$229 130 East Seneca St	SOLD OUT 607-277-8900	CURE14
Homewood Suites ~ \$249 36 Cinema Drive	607-266-0000	CUR
La Tourelle ~ \$219 1150 Danby Road	607-273-2734	Cornell Reunion
Ramada Inn ~ \$189 2310 N. Triphammer	607-257-3100	Cornell Reunion
Super 8 ~ \$110 400 S. Meadow St	607-273-8088	Cornell Reunion
Trip Hotel (was Clarion) ~ \$179 One Sheraton Drive	607-257-2000	Cornell Reunion

JUNE 5-8, 2014



helmetshrike. However, 40 years of civil war, countless land mines, and bush-meat trade (especially), combined with the wanton logging and slash and burn agriculture of this sad country's forests, limited the mammal count to a pathetic thirty-three squirrel and shrew-sized animals. Dr. Orzeck is the founder and owner of the Trumansburg Vet Clinic in Trumansburg, N.Y.

David Walker, DVM
Wayne, PA

This year, and proving for all eternity that the class of '91 was not just another assemblage of talented healers and pretty faces but rather one of the greatest forces for good on the planet, Dr. Dave Walker has once again participated in the Multiple Sclerosis Society's City to Shore bicycle ride. This annual event, consisting of a 150-mile round-trip ride between Cherry Hill, N.J., and Ocean City, Md., draws in over 7,000 cyclists. Through his devoted effort to this cause and the generosity of his clients, in his nine years of participating in the event, Dave has raised over \$25,000 for his local chapter for the Multiple Sclerosis Society. Dr. Walker is owner of Gateway Animal Hospital, Wayne, Penn.

Class of 1994

Dr. Prema Arasu
Olathe, KS

Dr. Prema Arasu, an infectious diseases researcher, veterinarian, and leader in university international engagement, has been chosen to head Kansas State University's presence in Greater Kansas City as CEO and vice provost. Most recently Dr. Arasu served as vice provost of international programs at Washington State University, with oversight of global services, global learning, international research, and economic development. Before joining Washington State, Dr. Arasu spent 15 years at North Carolina State University, where she served as director for global health initiatives, associate vice provost for international academics, and professor in the department of comparative biomedical sciences. Dr. Arasu has published extensively in peer-reviewed and refereed journals like the Journal of Parasitology and Molecular and Biochemical Parasitology. She conducted postdoctoral research at New England Biolabs Inc., Harvard Medical School/Massachusetts General Hospital, and

Cornell University. She was also a science and technology policy congressional fellow of the American Association for the Advancement of Science and served on the U.S. Senate Subcommittee on Health from 2002 to 2003.

Class of 1997

Justine Lee, DVM
Saint Paul, MN

While studying for board exams and having a strong desire to find a way to learn while listening to her Walkman and simultaneously exercise on the treadmill, Dr. Lee created VetGirl. VetGirl is a subscription-based podcast service that offers RACE and NYSED-approved veterinary continuing education (CE) in a tech savvy, fun way, allowing listeners to exercise or multitask while they learn. For more information, visit <http://vet-girlontherun.com/>

Class of 1988

Dayna Widenkeller, DVM
Anaheim, CA

Dayna Widenkeller was installed as president-elect of the California Veterinary Medical Association (CVMA) on June 21, 2013. The

installation took place during the annual Pacific Veterinary Conference. The CVMA is a membership organization that represents more than 6,300 veterinary professionals in California.

Class of 2002

Jennifer Barrett, DVM
Leesburg, VA

Dr. Jennifer Barrett, associate professor of equine surgery, Virginia-Maryland College of Veterinary Medicine at Virginia Tech, was recently named Theodora Ayer Randolph Professor of Equine Surgery by the Virginia Tech Board of Visitors, a position she will hold for three years. A member of the Virginia Tech faculty since 2007, Dr. Barrett's research has focused on regenerative medicine. Her research interests include tendon, ligament, and cartilage healing, stem cell and platelet rich plasma therapies, and tissue regeneration. She introduced the new Regenerative Medicine Service at the equine medical center, which offers stem cell treatment and platelet-rich plasma therapy to patients at the university's equine medical center and beyond. Her

clinical interests include lameness, diagnostic imaging, orthopedic surgery, and emergency surgery.

Kathleen Kyle, DVM
South Boston, MA

Dr. Kathleen Kyle was accepted into the Peace Corps and departed for Senegal September 23 to begin training as an urban agriculture volunteer. Dr. Kyle will live and work in a community alongside farmers on integrated projects that often combine vegetable gardening, livestock management, agroforestry, and food security. During the first three months of her service, Dr. Kyle will live with a host family in Senegal to become fully immersed in the country's language and culture. After acquiring the language and cultural skills necessary to assist her community, Dr. Kyle will be sworn into service and be assigned to a community in Senegal, where she will live and work for two years with the local people.

Class of 2004

Katherine Goldberg, DVM
Ithaca, NY

Amidst a recent surge of public interest in hospice care for pets and recognizing a need within the veterinary professional community for an organization dedicated to the advancement of hospice and palliative care medicine, co-founder and co-president Dr. Katherine Goldberg announced the establishment of the Veterinary Society for Hospice and Palliative Care. This is the first and only hospice organization developed by veterinarians, for veterinarians, and its founders have a laser focus on the future. The organization's mission statement is "to advance veterinary medical knowledge, professional education, community engagement, and research in hospice and palliative care." Goldberg explains, "While we acknowledge that a multidisciplinary team approach is essential for provision

of exemplary hospice and palliative care, I feel that a professional veterinary society is critical for addressing the specific needs of veterinary hospice clinicians."

Class of 2006

David W. Gardiner, DVM
Salt Lake City, UT

Gardiner Smith Laboratories, a privately owned Utah company led by Chief Executive and Medical Officer David W. Gardiner, DVM, MS, DACVP, has announced its acquisition of Animal Reference Pathology, a division of ARUP Laboratories at the University of Utah. The new company will retain the name of Animal Reference Pathology, which provides pathology services to the veterinary community with review and diagnosis by board-certified veterinary pathologists with interests ranging from dermatopathology, neoplasia, hepatic, enteric and ocular pathology, reptile and amphibian medicine, food animal

diseases, and viral, bacterial, and fungal diseases. Animal Reference Pathology specializes in diagnostic veterinary histopathology and cytopathology and also provides contract research histopathology, specialty testing, and other industry and academia projects. For more information, please visit www.animalreferencepathology.com.

Jennifer Thomas Wilkinson, DVM
Burlington, VT

Dr. Jenny Wilkinson, animal science lecturer at the University of Vermont, was selected as one of four 2013 winners of the Kroepsch-Maurice Excellence in Teaching Awards, which recognize UVM professors for excellent instruction. Dr. Wilkinson teaches courses on basic equitation; horse health and disease; and advanced equine instructing techniques, among other topics.

SHARE YOUR NEWS

We will include Class Notes in the July 2014 issue of 'Scopes Magazine. Please let us know what you'd like to share with your classmates in our Class Notes section by April 15, 2014, for inclusion.

NAME _____ (MAIDEN IF APPROPRIATE) _____ CLASS YEAR _____

ADDRESS _____

EMAIL _____ PHONE _____

Please tell my classmates that...

PLEASE RETURN TO: Cornell University, College of Veterinary Medicine, Box 39, Ithaca, NY 14853. Alternatively, share your information with us via email (vetfriends@cornell.edu) or complete the online form at www.vet.cornell.edu/alumni/ClassNotes.



IN MEMORIAM

SINCE THE LAST ISSUE OF 'SCOPES, THE COLLEGE HAS BEEN NOTIFIED OF THE PASSINGS OF THE FOLLOWING:

- Dr. Jane W. Benson '47, August 28, 2013
- Dr. Crager J. Boardman Sr. '53, October 28, 2013
- Dr. William P. Cadwallader '62, July 5, 2013
- Dr. Clyde Corr '54, August 30, 2013
- Dr. Maurice G. "Moe" Deeley '54, July 11, 2013
- Dr. Dana C. Dingley '49, July 5, 2013
- Dr. Russell J. Dufraim '74, May 3, 2013
- Dr. Edwin O. Gilbert '43, July 14, 2011
- Dr. Martin A. Gruber '62, November 18, 2013
- Dr. Mary C. Hallenbeck '47, October 30, 2013
- Dr. Clyde M. Haller '44, November 17, 2013
- Dr. Robert E. Horton '45, November 15, 2013
- Dr. Stuart V. Jones '50, May 11, 2013
- Dr. Paul V. Kowaleski '61, October 1, 2013
- Dr. Clyde E. Lanfair '43, June 5, 2013
- Dr. Jeanne N. Logue '44, August 19, 2013
- Dr. John A. "Doc" Matochik Jr. '54, July 13, 2013
- Dr. Arthur P. Motta '53, July 2, 2013
- Dr. Charles L. Myers '52, September 12, 2013
- Dr. Ray C. Newman '47, April 10, 2013
- Dr. Harry P. O'Connor '68, October 2, 2013
- Dr. Teresa "Terri" Bartiromo Pentek '76, October 7, 2013
- Dr. E. Edgar Ruebush '43, June 20, 2013
- Dr. A. Louis Shor '53, August 7, 2013
- Dr. Dorothy Smallridge '43, July 7, 2013
- Dr. Laura E. Smiley-Rogatz '87, May 15, 2013
- Dr. Natalie M. Hanlon Soule '84, December 14, 2006
- Dr. Frederick K. VanDeusen Jr. '61, October 3, 2013
- Dr. Harrison J. Wilcox Jr. '45, July 13, 2013
- Dr. Richard E. Wooley '60, November 18, 2013

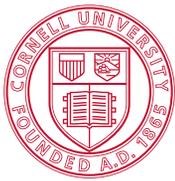
SAVE THE DATE

New York State Veterinary Conferences

SPRING | Companion Animal
May 16-18, 2014
Hilton Westchester
Rye Brook, NY

FALL | Multi-Species
October 11-12, 2014
Cornell University College
of Veterinary Medicine
Ithaca, NY





Cornell University
College of Veterinary Medicine

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Members of the Class of 2015 don their white coats at a December 2013 ceremony.