



Spring 2014

Bellwether 1, Spring 2014

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Recommended Citation

(2014) "Bellwether 1, Spring 2014," *Bellwether Magazine*: Vol. 1 : No. 81 , Article 1.

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NUMBER 81 | SPRING 2014

THE NEWSMAGAZINE OF THE UNIVERSITY OF PENNSYLVANIA SCHOOL OF VETERINARY MEDICINE

LAYOUNNE: A Testament to Colic Surgery Success

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Penn Vet Experts Help China's Dairy Industry

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DIRECTOR OF ANNUAL GIVING
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COMMUNICATIONS SPECIALIST
FOR NEW BOLTON CENTER
LOUISA SHEPARD

COMMUNICATIONS COORDINATOR
JOHN DONGES

DEVELOPMENT COORDINATOR
FOR NEW BOLTON CENTER
BARBARA BELT

SPECIAL EVENTS COORDINATOR
DARLEEN CALAHAN

CONTRIBUTORS
KATHERINE UNGER BAILLIE
ASHLEY BERKE
JOHN DONGES
JILLIAN MARCUSSEN
KRISTEN McMULLEN
HELEN RADENKOVIC
LOUISA SHEPARD
JANE SIMONE
HELMA WEEKS

DESIGNER
ANNE MARIE KANE

Please address your correspondence to:
Ashley Berke
University of Pennsylvania
School of Veterinary Medicine
3800 Spruce Street
Philadelphia, PA 19104-6010
(215) 898-1475
berke@vet.upenn.edu

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ABOUT THE COVER:

Layounne nuzzles one of her foals. *Layounne* is currently in foal to *Union Rags* – of local fame, owned by Phyllis Wyeth, and a prior Kentucky Derby contender. The filly is due March 10.



HENDRICKS

On November 2, 1807, before a medical school class at the University of Pennsylvania, Dr. Benjamin Rush, prominent Philadelphia physician and the only signer of the Declaration of the Independence with a medical degree, delivered a visionary speech entitled “On the Duty and Advantages of Studying the Diseases of Domestic Animals, and the Remedies Proper to Remove Them.” Dr. Rush had studied abroad and lamented the lack of a proper veterinary institution in his home country. He eloquently made the case for why an aspiring American physician should “embrace in his studies and labors the means of lessening the miseries of domestic animals.”

Dr. Rush’s pivotal speech ultimately inspired the creation of the University of Pennsylvania’s School of Veterinary Medicine in 1884. As we enter the School’s 130th year, I am constantly reminded of how relevant Dr. Rush’s words remain. Today, veterinarians and researchers at Penn Vet are at the forefront of translational medicine between animals and humans. And we are playing a critical role in protecting public health and food safety, as well as ensuring that animals produce plentiful, safe, and affordable food, using techniques that are sensitive to environmental and animal welfare concerns.

In this issue of *Bellwether*, you will learn how Penn Vet is playing a critical role in aiding China’s dairy industry. In September, a group of New Bolton Center experts traveled to China, where they met with dairy farmers and corporations to improve cow nutrition, milk production, and environmental management. Read more about our global impact on page 8.

To encourage veterinarians to contribute to the maintenance and promotion of global public health for both animals and humans, Penn Vet created an innovative leadership development program in partnership with the Wharton School. The Penn Executive Veterinary Leadership Program will enter its fifth year in June (read more on page 12). Combining the knowledge and experience of our veterinary school with that of Penn’s world-class business school, this unique program helps veterinarians refine their leadership skills and get involved in the most pressing global issues that affect animals and humans: zoonotic diseases, food security, disaster preparedness, poverty, and others.

Penn Vet also continues to lead the way in providing the best in veterinary care. One of our many programs of distinction is the Transplantation Center of Excellence at Ryan Hospital (see page 16). As the only veterinary teaching hospital in the nation offering kidney transplantation and hemodialysis under one roof, Ryan Hospital has attracted clients from as far away as Texas, California, Canada, Brazil, and Kuwait.

We have established ourselves as experts in the field – and the media has noticed! In the summer, Dr. Perry Habecker was often called upon to comment on the dolphin deaths along the East Coast. Read more about the important role our pathologists played in uncovering this mystery on page 14.

I hope you will also enjoy our cover story (see page 4), which showcases our leadership role in equine veterinary medicine, as evidenced by the case of *Layounne*, a wonderfully resilient Thoroughbred mare who underwent successful colic surgery at New Bolton Center.

As friends, alumni, and supporters of Penn Vet, I know that finding out about our programs and accomplishments will inspire you and make you proud. From its earliest days, the School has set itself apart as a leader in research, education, and clinical practice. I look forward to seeing what the future brings as we carry on our legacy of dedication to animal and human health for the benefit of the world.

—JOAN C. HENDRICKS, V’79, GR’80
THE GILBERT S. KAHN DEAN
OF VETERINARY MEDICINE

Fresh from a bath, *Layounne* enjoys the open air at Brushwood Stable.



A TESTAMENT TO COLIC SURGERY SUCCESS

Layounne

BY JANE SIMONE

Once upon a time, when a horse's veterinarian confirmed a diagnosis of colic, many an owner shuddered with fear. Colic, the general term for a gastrointestinal problem, has been the leading killer of horses for centuries. Fortunately, veterinary medicine has progressed by leaps and bounds in the last half-century, matching human healthcare today in terms of sophistication, technology, and the skill of its practitioners.

Penn Vet's New Bolton Center claims a verifiable leadership role in equine veterinary medicine advances, including the care and management of serious colic cases. An impressive example of post-colic surgery survival is *Layounne*, a now 18-year-old Thoroughbred mare purchased in 1996 by Mrs. Elizabeth Moran, owner of Brushwood Stable in Malvern, PA.

A PRESTIGIOUS PEDIGREE

Layounne was bred by the esteemed Harbor View Farm, which raced Triple Crown winner *Affirmed*. Her sire was *Mt. Livermore* and her dam was *La Affirmed*, whose sire was the great *Affirmed*. *Layounne* was foaled in 1995. Among other names in her impeccable pedigree are *Della Francesca*, a multiple graded winner in Europe and the US; *Bernstein*, a graded winner who stood at stud at Castleton Lyons in Kentucky; and *Country Cat*, a graded stakes winner who is by *Storm Cat*.

Layounne raced for Brushwood Stable under the careful tutelage of trainer Bill Mott. Unfortunately, she made only two starts, resulting in a second and third place finish in a pair of maiden races on the New York circuit, before her career was cut short. The discovery of a stress fracture of her right tibia led to her retirement from racing. The injury, however, did not affect her future as a brood mare, and she was bred to *Danzig*, son of *Northern Dancer*. *Danzig* is acclaimed as the leading sire of the second half of the 20th century.

Layounne's first foal was a colt, born on April 3, 2000. She was bred back to *Danzig* after delivering. But in December, while carrying their next baby, she colicked and was rushed to New Bolton Center, eight months pregnant.

CAUSE FOR CONCERN

Brooks Adams, Brushwood Stable's longtime manager, remembers that the first signs of *Layounne's* distress were not very severe. She was pawing the ground, out of sorts, and curling her lip. Her primary care veterinarian treated her with routine colic medications, but when it was clear that she needed more serious help, the decision was made to take *Layounne* to New Bolton Center.

On a cold December day, Brooks loaded *Layounne* onto a trailer and traveled the 40 minutes to New Bolton Center. Upon arrival, Brooks found an attentive and prepared clinical team waiting to greet them and evaluate the mare. She was diagnosed with an impaction and, soon afterwards, taken to surgery. Because *Layounne's* pregnancy was advanced, Brooks was concerned about her prognosis, but recalls that she did very well.

Following a 10-day stay at New Bolton Center, *Layounne* returned to Brushwood Stable under Brooks' watchful eye, to await the arrival of her second foal. That foal was born by caesarean section on April 2, 2001, almost four months exactly after *Layounne's* colic surgery.



Mrs. Elizabeth Moran poses with Dr. Dean Richardson. Mrs. Moran has been a loyal client and supporter of New Bolton Center for many years.



A LASTING LEGACY

Layounne's nerve-racking experience with colic, followed by her caesarean section and the safe delivery of a filly (which she had to give up to a nurse mare), did not take her out of commission. She was successfully bred back to the legendary *Storm Cat*, and in April 2002, gave birth to her third foal, a bay colt. Thus began a heartwarming history of Thoroughbred motherhood.

Since 2000, *Layounne* has delivered 11 healthy foals, five colts, and six fillies. Their sires include such well-known names as *Storm Cat*, *Pulpit*, *A.P. Indy*, *Hard Spin*, *Raven's Pass*, and *Gio Ponti*.

Her latest baby is by Phyllis Wyeth's *Union Rags*, a Pennsylvania horse that carried the hopes of many in southeast Chester County as a contender in the 2012 Kentucky Derby. He failed in his bid to win that coveted title, but went on to win the Belmont Stakes, the third race in the Triple Crown series.

Layounne's success as a brood mare is a wonderful testament not only to her own strength and resilience, but also to the astuteness of her on-farm caretakers, namely Brooks Adams; the skill of her primary care veterinarian, Dr. Gerald Auman; and the dedication of Mrs. Moran to her horses.

Says Brooks Adams, "Mrs. Moran wants her horses taken care of quickly and by the best." The combined expertise of the New Bolton Center surgical team who carried out *Layounne's* colic surgery and those who performed the caesarean section just four months later, ensured a happy ending to what might have been a tragic story.

Thirteen years later, *Layounne* is going strong, with a *Gio Ponti* filly at heel and a *Union Rags* baby due in March.

A BRIEF HISTORY OF COLIC REMEDIES

Layounne's case is an excellent example of remarkable progress in veterinary medicine. Ancient colic remedies, many of which were either dangerous or downright cruel to the horse, were passed from horseman to horseman over the years, with little or no effect on the ability to resolve or prevent the condition.

As an example, one of the less frightening therapies included a bolus of "Barbados aloes" (the juice of which is used in certain pharmacological preparations) for the relief of impaction colic. The highly respected textbook advocating this procedure was first published in England in 1877. But even in a 1970 edition, the treatment advice still included dosing with this purgative, and noted that "in cases where prostration is marked, a full dose of whisky or brandy (maximum dose: 4 oz.) can be added to the foregoing." Another amusing comment about the Barbados aloes treatment stated that: "As a rule in England, the maximum dose (for a cart-horse) is 6 drachms, but horses in Scotland require larger doses."

In discussing "unfortunate consequences" of overdosing with Barbados aloes, the textbook's veterinarian author offered this pre-empting advice: "Nobody can be held responsible should the animal exhibit an idiosyncrasy after administration of this, or for that matter any other drug used, in the course of the treatment of an animal."

SUCCESSFUL OUTCOMES

Because of its significant caseload (one of the largest among North American veterinary teaching hospitals), New Bolton Center's clinicians and students have access to data on a wide variety of colic cases that is both rich in depth and scope.

Dr. Louise Southwood, Associate Professor of Large Animal Emergency Medicine and Critical Care at New Bolton Center, is engaged in a number of studies of long-term colic surgery survivors, including *Layounne*. The purpose is to show that a successful outcome should be the norm today for colic patients and their owners.

Layounne's outcome, and that of all the horses in Dr. Southwood's study, shows how far equine veterinary medicine has progressed in just two or three decades. Colic surgery no longer means that an animal's useful working life is over. Rather, it can often mean a return to an active, competitive life and the possibility of great athletic achievements. New Bolton Center's Emergency and Critical Care department has an outstanding record of success in the management of colic cases. *Layounne* and her babies can attest to that. 🍷



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Dr. James Ferguson, Professor of Nutrition and Section Chief of Animal Production Systems, scores the body condition of cows at a dairy farm near Yinchuan, China.



Penn Vet Experts Help China's Dairy Industry

BY LOUISA SHEPARD

Growing up in a small village in China, Dr. Zhengxia Dou never had enough to eat. The collective commune system of living in her village made producing food nearly impossible during the drought and famine of her childhood.

Dou and her family worked in the fields to help with the crops and tended the backyard chickens and pigs, doing everything by hand. No matter how hard they worked, there just wasn't enough food.

"I was only a few years old, but I still have a memory of being hungry. Somehow, in the root of my memory, food is still a big deal," said Dou, a PhD and Professor of Agricultural Systems at Penn Vet's New Bolton Center. "I am still interested in food, but my focus now is on food production, food security, and the environment."

In September, Dou returned to her birthplace with colleagues from the Center for Animal Health and Productivity (CAHP). The goal of CAHP is to help educate dairy farmers and corporations to improve cow nutrition, milk production, and environmental management. The trip to China was funded in part by the Provost's Global Engagement Fund.

Below: Dr. Zhengxia Dou, Professor of Agricultural Systems, at the Chengdu Giant Panda Breeding and Research Base.

Bottom: Penn Vet's Center for Animal Health and Productivity team evaluates the quality of corn silage in a storage bunker on a farm in Yinchuan, China. The harvest and storage of corn silage is critical to preserving the nutrients in this important component of dairy cow feed.



The New Bolton Center participants also included Dr. David Galligan, Professor of Animal Health Economics; Dr. James Ferguson, Professor of Nutrition and Section Chief of Animal Production Systems; Dr. Linda Baker, Staff Veterinarian, Animal Production Systems; Dr. Zhinguo Wu, Research Associate Professor of Ruminant Nutrition; and Dr. Robert Munson, retired CAHP Staff Veterinarian. In addition, Dr. Wen Shieh of Penn's School of Engineering and Applied Science joined the group to bring an engineering technology perspective.

Also on the trip was top-rated Pennsylvania dairy producer, Walter Moore. Moore owns Walmoore Holsteins Inc., just a few miles away from the New Bolton Center campus. The Moore family has been working with Penn Vet for nearly 30 years. Moore credits the advice of Drs. Ferguson and Galligan with improving the efficiency of his farm. In only a few years, he has increased his herd 25 percent to 850 cows and his milk production 30 percent to 98 pounds per cow a day.

"China has a long way to go to catch up to the US industry," said Moore, who visited several dairy farms with the Penn Vet team, some with thousands of cows and others with less than a couple hundred.

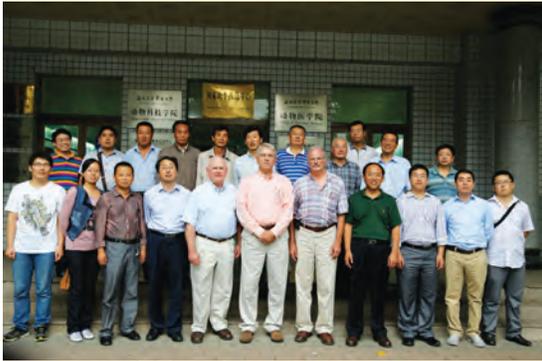
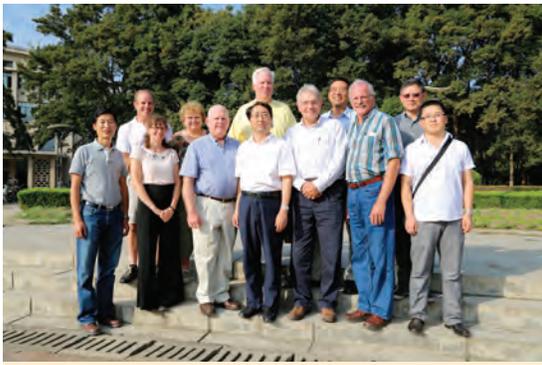
At the Northwest Agriculture and Forestry University in Yangling, near the ancient Chinese capital of Xi'An, Penn Vet representatives met with more than 200 people, including farmers, faculty, veterinarians, nutritionists, and students.

The focus was on feed, specifically corn silage, which makes up the bulk of the dairy cow diet. Silage must be harvested and stored in a way that preserves the nutrients. The better the silage, Penn Vet experts say, the better the milk production.

"There are vast differences in quality of corn silage in China, and that really drives milk production. If the cows don't have a quality feed, they are not going to make milk," Galligan said. "That's why we zeroed in on corn silage, to bring an awareness of the importance of that feed in their milking operations."

With new economic policies, China's dairy business is expanding at an unprecedented pace. The growing middle class wants more animal protein, and the demand for fluid milk is growing steadily. With more than one billion people in China, the nascent dairy industry cannot meet demand.





Milk sells for twice the price in China than it does in the US, and the price of cattle is double, as well. As a result, the dairy farms are large and growing. Corporate Chinese dairies are setting goals of 10,000-cow herds. Despite having more than 12 million cows, compared to nine million in the US, China produces much less milk. In fact, the amount of milk each cow produces in China is less than half the average of a dairy cow in the US.

The Penn Vet team is trying to help Chinese producers better manage herds by improving the feed, which will, in turn, increase the milk production per cow. Better-managed herds also will reduce the negative impact on the environment.

“When I look at the US, a major reason our dairy industry has been able to evolve is due to the extension service that links science-based findings to on-farm application,” Galligan said. “In China there is not an infrastructure for that information. They rely on what they can find online or from consultants.”

An ambassador in the effort to improve knowledge of dairy herd management is Ming Xu, Associate Professor at Inner Mongolia Agricultural University, another Penn Vet partner in China. Xu has been a fan of Penn Vet’s software for the dairy industry, the CPM Dairy Analyzer, and sought out Dr. Ferguson in 2010 when he was in China.

So enthusiastic is Xu about the possibilities to improve the Chinese dairy industry, he came to the New Bolton Center campus in December to study the US dairy industry.

“If the US dairy industry is like an adult, the Chinese dairy industry is like a toddler,” Xu said. “For China to make a big improvement, they need knowledge.”

That knowledge even extends to simple tasks such as milking a cow, which Moore demonstrated in China. “It made a big impact,” Xu said. “People in China are now copying the milking procedure.”

Penn Vet’s impact in China is far-reaching. Drs. Galligan and Ferguson are well-known at universities and in the dairy industry in China, Xu said.

Galligan made his first trip to China for Penn Vet in 1985 and has returned several times. “During our September visit, we saw more progressive farms than we had seen before,” he said. “We saw some farms that had better corn silage and corn silage management systems than in years past.”

Top: The Penn Vet team on the campus of the Northwest Agriculture and Forestry University in China with Dr. Junhu Yao, Dean of the University’s College of Animal Science and Technology (pictured in the center of the front row).

Second: Penn Vet team members held a session on dairy nutrition and management with graduate students at the Northwest Agriculture and Forestry University in China.

Third: Penn Vet Dean Joan Hendricks and Dr. Zhengxia Dou at the Northwest Agriculture and Forestry University in China with several University officials.

Bottom: Ming Xu, Associate Professor at China’s Inner Mongolia Agricultural University, studied with Penn Vet’s CAHP team at New Bolton Center in December. From left: Dr. Zhengxia Dou, Dr. David Galligan, Dr. Linda Baker, Ming Xu, Dr. James Ferguson, Dr. Zhinguo Wu.



OVER THE PAST FOUR YEARS, SEVEN PENN VET STUDENTS HAVE PARTICIPATED IN EXTERNSHIPS IN CHINA AT THE HUAXIA DAIRY. GABRIEL INNES, V'16, SHARES SOME REFLECTIONS FROM HIS JOURNEY LAST SUMMER.

I was accepted for a dairy fellowship at Huaxia Dairy in Sanhe, China, about an hour-and-a-half east of Beijing by bus. Upon arrival, I immediately understood why the dairy was located in such a rural setting, as there were over 10,000 calves, heifers, and cows. My comrades and I were excited to get our hands dirty. Literally.

During our time there, we took the opportunity to research every facet of the dairy. We interviewed almost everyone, from managers, to the people that picked up manure, to the veterinarians. This was eye-opening, not only in regards to the farm itself, but also about China's politico-economic climate. We learned about people's daily lives and qualms. This came in a variety of forms, including monetary problems and the constant fear of contracting a zoonotic disease – mostly brucellosis, a disease easily managed in the US, but one that can be debilitating in some other countries.

Based on our findings, most of the problems could be improved with basic training and reinforced management. We conducted research reports on our discoveries and provided suggestions for better efficiency. We modified already existing operating procedures and created new ones for everything from milking, to dystocia, to treating mastitis, to feeding cows. By the end of our externship, my two colleagues and I had written an entire blueprint for this dairy farm operation.

Perhaps our research will not be used, but regardless, I learned both about the dairy industry in general, as well as the difficulties that are encountered in a place so different from home. I will take the lessons I learned during the trip throughout my career and my life.

Penn Vet Dean Joan Hendricks also visited China last year with Dou, who has been working with the influential China Agricultural University in Beijing, giving seminars on Penn Vet's work.

During Dean Hendricks' visit, discussions began about more international collaboration. Changes may be made to the Penn Vet dairy curriculum to include additional externships in China for Penn Vet students, as well as the opportunity for students from China's Inner Mongolia and Northwest Universities to come to Penn Vet.

"Food production is becoming a global business," Galligan said. "It's important that our students understand the potential of the dairy industry and gain a broad perspective of food production in the world."

The possibilities in China are wide-ranging. Once import restrictions are lifted, the market for US farmers to sell young heifers will be very promising, with prices double those here. As soon as he returned from China, Moore started working with industry and government leaders to make those exports possible. "This could be a huge economic boon to the dairy industry," Moore said.

Seeking new opportunities has defined Dou's life. She made it out of her village and to Yan'an University, where she majored in chemistry. She then studied the chemistry of soil at the Chinese Academy of Sciences before receiving her PhD from Penn State. Today, she may be the only soil scientist on faculty at a US veterinary school.

An integral part of the CAHP team, she studies food production as a cycle: how you feed the cow not only affects the production of the milk and meat, but also has a direct impact on the composition of the manure, which returns to the soil to nourish the corn that makes the feed.

Dou hardly recognizes the city where she grew up, where her 91-year-old father and four siblings still live. Her feelings are mixed, as significant growth has brought pollution to the air and water. The lack of education and awareness about the environment is overwhelming. That's where she hopes she and her colleagues can make a difference.

"People are living much better lives," she said. "You don't see hungry people like before. These are big, big changes, but how to meet the growing demand for food in a sustainable way remains a tough challenge for all of us." 



Veterinary Leadership Program Celebrates Five Years

BY JOHN DONGES

The Penn Executive Veterinary Leadership Program is designed for veterinarians who are interested in refining their leadership skills and contributing at a high level to the global public health discussion. The format of the program allows veterinarians to learn a variety of skills in order to influence public policy and expand the profession's impact.

Penn Vet Dean Joan Hendricks has long recognized the need for veterinarians to advocate for the importance of their expertise. "We have an exciting opportunity to elevate the perception of the veterinary profession," she said. "Although our work in treating animals is important, our larger mission of supporting global public health is paramount. Despite our extremely broad role as veterinarians, our leadership potential is often overlooked. This program is designed to help us make our voices heard."

In 2006, Dean Hendricks reached out to her fellow deans across Penn's campus for inspiration and assistance. Pat Harker, Dean of the Wharton School at the time, put her in touch with members of the Executive Education department at Wharton and their chief education officers. Together, they discussed ways to develop a training program for veterinarians that would address such diverse topics as leading in public forums,

connecting animals with society, and addressing health and economy on a global scale. The collaboration between these two powerhouses – Penn Vet and the Wharton School – was poised for great success.

Dean Hendricks was then introduced to Dr. Kathy Pearson, Senior Fellow at the Leonard Davis Institute of Health Economics at Penn, who had experience in directing leadership programs for the health profession. These programs tackled issues such as how to shape thinking in order to increase impact and how to build the health profession's ability to help communities on a large scale. Dr. Pearson enthusiastically partnered with Penn Vet to tailor the program for veterinarians, which led to the creation of the Penn Executive Veterinary Leadership Program, first offered in June 2009.

Since its inception, the program has attracted thought leaders in veterinary medicine from throughout the country. Representatives from prominent organizations such as the American Veterinary Medical Association (AVMA), the Association of American Veterinary Medical Colleges (AAVMC), the Pennsylvania Senate Agriculture and Rural Affairs Committee, and the Center for Public Health Initiatives have participated. In addition, Penn Vet faculty members and

alumni are selected to attend. International participants and non-veterinarians were invited to join the 2013 conference, which further enriched the experience for all involved.

“Participants have come from all walks of life, and in some unexpected ways,” said Dean Hendricks. “I’ve found that everyone really thinks beyond themselves. And best of all, the program is inspiring.”

The success of the program has been, in large part, due to the quality and strength of the speakers, who have expertise in topics ranging from business and economics to health and medicine. Dr. Charlotte Lacroix, for example, is a veterinarian, lawyer, and CEO. Marketing scholar Patricia Williams, agricultural business expert Dr. Gregg BeVier, leadership expert Dr. Nancy Rothbard, and intergroup relations expert Dr. David Berg are among other distinguished speakers who have participated in the program, providing a well-rounded experience for those in attendance.

About the program, Dr. Kim Hammond, Chief Medical Officer and founder of Falls Road Animal Hospital in Baltimore, MD, said, “It gave me the tools to make me so much more competitive. The instructors were cutting-edge.”

Dr. Mitchell Moses, Director of US Veterinary Hospital Services at Pfizer Animal Health, said, “The level of instruction and peer collaboration is outstanding.”

To celebrate the program’s fifth year, organizers are adding an alumni component to the 2014 program. The 80-plus graduates



of the program will have the opportunity to enjoy an alumni reception, a reunion publication, and an extended session with Dr. David Berg, Clinical Professor of Psychiatry at the Yale School of Medicine.

When reminiscing about past programs, Dean Hendricks fondly remembers a moment during one of Dr. Gregg BeVier’s presentations. “He was talking about work in Africa, and it turned out that four other people in the room had made connections in Africa, as well,” she recalled. “It crystallized for everyone that vets do more than you expect. We make a significant global impact. And that’s what makes this program so fantastic. It’s a truly transformative experience.”

For more information and to apply for the Penn Executive Veterinary Leadership Program, visit: www.pennvetleadership.com.

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“It was clear the majority of dolphins had pneumonias consistent with virus infections,” Habecker said, recalling the autopsies in those early weeks of July. “They had lesion patterns characteristic of viral pneumonia.”

New Bolton Center Pathologists Help Solve Dolphin Death Mystery

BY LOUISA SHEPARD

Why the deep-sea *Tursiops truncatus*, commonly known as bottlenose dolphins, were washing ashore on the Atlantic Coast was a mystery. And as the numbers of dead increased, so did concern. On July 9, the National Oceanic and Atmospheric Administration (NOAA) declared an “unusual mortality event” so that the carcasses could be sent for autopsies to determine the cause of death.

For nearly 20 years, the Marine Mammal Stranding Center in Brigantine, New Jersey has been transporting dolphins, whales, seals, and other animals nearly three hours to Penn Vet’s New Bolton Center for autopsies.

Dr. Perry Habecker, Chief of the Large Animal Pathology Service, and his team were ready. Because of the unusual mortality event, they were prepared to perform additional procedures, including collection of specimens to be sent to federal labs and other universities for further research.

“It was clear the majority of dolphins had pneumonias consistent with virus infections,” Habecker said, recalling the autopsies in those early weeks of July. “They had lesion patterns characteristic of viral pneumonia.”

Cetacean morbillivirus was suspected from the start. Morbillivirus caused a major dolphin die-off 25 years earlier, killing more than 740 dolphins along the Atlantic Coast. Morbillivirus is related to measles in people and canine distemper in dogs, but it cannot be transmitted to humans. The symptoms can include skin lesions, pneumonia, and brain infections.

A total of 936 dolphins were stranded on the Atlantic Coast from July 1 through December 1, according to NOAA, compared to an average of 113 in the previous six years. A total of 135 dolphins were stranded in New Jersey, compared to five in an average year. (Stranding data includes mostly dead dolphins, many of them very decomposed, although a few were found alive.)

The deaths received national attention from the public, the media, and lawmakers. The New Jersey Department of Environmental Protection stepped in to help the nonprofit



Marine Mammal Stranding Center with the crisis, awarding a grant to pay for the autopsies. As a result, the dolphin cases were diverted to the New Jersey Department of Agriculture laboratory at the end of August.

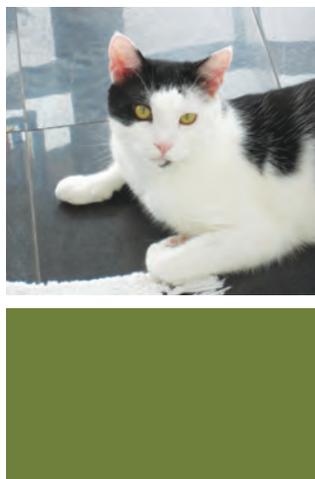
New Bolton Center handled 40 dolphin autopsies in July and August, receiving up to four at one time, many of them badly decomposed. In a typical year, New Bolton Center handles about 12 dolphins and 12 seals.

“It takes the whole crew to manage that caseload,” Habecker said, including staff pathologists, residents, students, and post-mortem attendants. In addition to the gross autopsy, the team took tissue samples, prepared and analyzed glass slides, and wrote detailed reports. Immunohistochemistry (the process of detecting antigens in the cells of a tissue section) proved to be very effective for the analysis, Habecker said, identifying morbillivirus in about 75 percent of the cases.

“We were deluged by these creatures. Some of our students, I believe, are now expert marine mammal technicians because they got to work with so many dolphins,” said Habecker, a 1981 Penn Vet graduate who has been at New Bolton Center since 1989. “They came up to speed very quickly in the anatomy and the dissection procedure.”

Bob Schoelkopf, Director of the Marine Mammal Stranding Center, said he has been working with Penn Vet for 40 years. He believes involving students in the process is important. His interest in the educational component that Penn Vet offers makes it likely that he will continue to send animals to New Bolton Center for autopsies.

“For me, I see it as a way to have future veterinarians specialize in the field of marine mammals,” Schoelkopf said, noting that the warming trend in the oceans could impact a wide range of species. “There may be an even greater need for marine mammal vets in the future.”



Dr. Lillian Aronson, Susan Gabriel, and Lynn Beale with the cats, Diamond (held by Lynn) and Amber (held by Dr. Aronson).



Precious Gems

BY HELEN RADENKOVIC

AMBER'S NINE LIVES

Amber is one of Susan Gabriel's five beloved, pampered cats. But don't let his majestic appearance fool you. Amber has faced great difficulties, including major, life-threatening diseases over the years.

Eight years ago, Susan found Amber – just a tiny kitten at the time – walking the streets with his brother and mother. Susan decided to give them a loving home. When Amber was just 18 months old, he was diagnosed with a congenital diaphragmatic hernia and benign liver nodules. Amber needed a very risky surgery to fix the hernia.

When the surgeons at Penn Vet started the procedure, they were shocked by what they saw. Amber's internal organs were inside of his chest cavity, as though he had sustained massive trauma to the body. The surgery was successful, but unfortunately, the difficult experience was not Amber's last.

In 2012, Amber returned to Penn Vet for a cystotomy to remove bladder stones. Then, in May 2013, Susan received news that all pet owners dread. Her beloved Amber, who had already overcome so much hardship, was in acute kidney failure. Only one procedure – a kidney transplant – could save him from this life-threatening condition.

THE PENN VET TRANSPLANTATION CENTER OF EXCELLENCE

Organ transplantation is one of the most challenging and complex procedures in modern medicine. Although an

established practice in human medicine, transplantation is virtually unheard of in veterinary medicine.

In fact, Penn Vet's Ryan Hospital is one of only two veterinary hospitals on the East Coast that performs feline kidney transplants, and one of only three renal transplantation programs in the entire country. Dr. Lillian Aronson, Professor of Surgery, founded Penn Vet's Renal Transplantation Program in 1998. To date, she has successfully completed 150 procedures.

Three male cats, each with distinct, winning personalities, currently reside at Ryan Hospital, ready to be matched to a cat in need of a kidney. Following a transplant, the owner of the kidney recipient is required to adopt the donor cat, since no animal is ever euthanized for the program.

These special donor cats were selected by veterinary technician Lynn Beale from a group of homeless cats at the York SPCA. Chosen for their highly social natures, the cats are known as Jellybean, Butterbean, and Garbanzo. Their gift of a kidney will provide a second chance at life to an ailing cat – and years of joy to the cat's owner.

Once Lynn leaves the SPCA, Penn Vet assumes full responsibility for the well-being of the cats, investing resources in medical screenings to ensure that they are viable kidney donors. Cats that are not viable donors due to organ size or underlying congenital diseases are placed into forever homes.

Presently, 90 to 95 percent of cats receiving kidney transplants at Penn Vet recover sufficiently and return home following transplantation. Approximately 70 percent of these cats are alive and well one year after the

Diamond acclimates to his new home.

Center: Diamond and Amber cuddle on the couch.



procedure. The longest survivor to date lived a happy, healthy life for 14 years following his transplant, and just passed away this year.

Renal transplantation is a major decision for any pet owner, requiring a considerable emotional and financial commitment. When faced with the decision of whether or not to proceed with Amber's transplantation surgery, Susan did not hesitate. "I would do anything for my cats," she said. "Amber's life was in danger, but there was a procedure to give him a chance at a quality life."

Dr. Aronson's successful track record, paired with the extraordinary surgical and critical care resources at Ryan Hospital, gave Susan the confidence to proceed. "It all came down to Penn Vet for me. The care my cats have received there has always been excellent. The surgery was risky, but if Amber had a chance of doing well, it was because his procedure was done at Penn Vet and because it was done by Dr. Aronson." It is this confidence in Penn Vet that motivates Susan to be a dedicated, enthusiastic ambassador for Ryan Hospital and the School.

Amber's surgery was incredibly successful. Dr. Aronson jokes that Amber "read the book on transplantation" the night before the procedure. Although Amber's surgery was straightforward, transplantation cases are typically complex and challenging. Three of eight cases in the last year have required hemodialysis in order to stabilize kidney function before surgery. Spearheaded by Dr. JD Foster, an internal medicine veterinarian specializing in hemodialysis and extracorporeal therapies, Ryan Hospital's dialysis service is poised to change health outcomes for dogs and cats suffering from a range of ailments, including kidney failure, toxicity, and infection.

Ryan Hospital is one of only five veterinary hospitals providing hemodialysis on the East Coast. Notably, Ryan Hospital is also the only veterinary teaching hospital in the nation offering kidney transplantation *and* hemodialysis under one roof. This impressive distinction makes Penn Vet a Transplantation Center of Excellence, attracting clients from as far away as Texas, California, Canada, Brazil, and Kuwait, seeking life-saving treatments for their beloved pets.

THE MOST PRECIOUS GEM

For several years, Susan has worn two custom-designed rings bearing the gemstones for which her living and late cats are named – Amber, Jade, Mother of Pearl, Pearl, Opal, Onyx, and Ruby. She is preparing to add another stone to symbolize the newest addition to her family, the kidney donor cat, whom she has appropriately named Diamond.

Diamond's name holds a very meaningful sentiment. His gift of a kidney saved the life of a cherished companion, and therefore Susan believed he deserved to be named after the most precious stone of all.

Diamond is full of exuberance, bringing a new energy into Susan's home. He has become a playmate to Ruby, a big, bossy tomcat who, before meeting Diamond, instilled more fear than friendship in the other cats. Diamond and Susan also have a very special bond. "He gets so excited when I come home. He squeals, chirps, meows, and runs right up to me!" And although Susan loves all of her cats, Diamond has found a special place in her heart and in her household. 🐾

WE SPEAK PENNY

WE ALSO SPEAK COMPREHENSIVE CANCER CARE



At Penn Vet's Ryan Hospital, we understand how overwhelming your pet's cancer diagnosis can be.

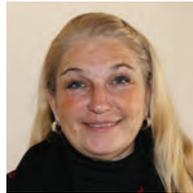
That's why we created the region's only Comprehensive Cancer Care Program, bringing together the best minds from all aspects of cancer care to offer customized solutions for your beloved pet.

Our team of board-certified specialists will stand by you every step of the way, offering the latest in cutting-edge research, facilities, and equipment.

Penn Vet Welcomes New Overseers

ILONA S. ENGLISH, WEV'77, GFA'88

Ilona English is the owner of Summit Sporthorses Ltd., Inc. in Ringoes, NJ, which breeds horses for dressage and jumping and sells riding-age and young horses.



ENGLISH

In addition to her Penn degrees, Ms. English completed two years of study in environmental design and architecture at Ohio University's School of Fine Arts and Architecture and studied at New York University's Real Estate Institute. Her work experience includes positions with LaSalle Partners, Inc., Galbreath Corporation, the Rockefeller Group, Inc., Collins Development Corporation, and independent consultancies.

Ms. English is a Founder and former Chair of the East Amwell Historic Preservation Committee and has served as a trustee of the Amwell Heritage Society. She is also a former member of Preservation New Jersey and served on the Financial Review Committee of the New Jersey Historic Trust.

Ms. English has been a client and friend of New Bolton Center since 1995, contributing to a number of New Bolton Center initiatives, including the Hofmann Center for Animal Reproduction, Friends of New Bolton Center annual fund, and the Equine Performance Evaluation Facility, which was dedicated on November 7, 2012, in her name. She and her husband Terry, both devoted horse and dog owners, reside on their farm in Ringoes, NJ.

MICHAEL F. GERBER, C'95

Michael Gerber is the Senior Vice President of Public Affairs, Strategy, and Product Administration at Franklin Square Capital Partners.



GERBER

From 2004 to 2012, he served as a member of the Pennsylvania House of Representatives. From 2007 to 2012, he was a trustee of Pennsylvania's State Employees' Retirement System, the State's \$25 billion pension fund. During his tenure in public office, Mr. Gerber also held key party posts, chairing his party's statewide House campaign committee and serving as Treasurer of a national political organization that supports state House and Senate campaign committees across the country.

While serving in the legislature, Mr. Gerber practiced law at the Philadelphia-based national law firm Drinker Biddle & Reath LLP, where he helped run the marketing and strategy functions and was a member of the Corporate and Securities practice group. Earlier in his career, Mr. Gerber served as legal counsel to Pennsylvania Governor Ed Rendell's transition team and as a law clerk for Judge Ronald L. Buckwalter of the United States District Court for the Eastern District of Pennsylvania.

Mr. Gerber earned his undergraduate degree from the University of Pennsylvania and graduated cum laude from Villanova University School of Law.

Mr. Gerber is a member of the Board of Trustees of the University of Pennsylvania. He lives with his wife and three children in the Philadelphia suburbs.

GRETCHEN JACKSON, CW'59

Gretchen Jackson served on the Penn Vet Board of Overseers from February 2002 to June 2011, during which time she co-chaired the Development Committee. She also served as a member of the "Making History" Campaign Steering Committee.



JACKSON

Ms. Jackson has been a passionate advocate for New Bolton Center throughout her long association with the School. She and her husband, Roy, have been clients since 1986, and Roy's parents were intimately involved with New Bolton Center since its inception. Most notably, the Jacksons brought Kentucky Derby winner Barbaro to New Bolton Center after he shattered his hind leg at the Preakness in May 2006.

The Jacksons have supported equipment needs in the Scott Equine Sports Medicine Building, named for Roy's mother and step-father and funded in large part by their bequests; the Neonatal Intensive Care Unit; equine/large-animal scholarship; and the Laminitis Research Fund. They also established the Dean W. Richardson Chair for Equine Disease Research in honor of Dr. Richardson's care of Barbaro.

Ms. Jackson works tirelessly to improve the health and well-being of the Thoroughbred horse and to improve conditions for back-stretch workers at race tracks. She also acts on behalf of jockeys and others within the equine industry. She and Roy reside in Chester County, PA. 🍷



▲ **SCAVMA Auction**

Every year, Penn Vet's Student Chapter of the American Veterinary Medical Association (SCAVMA) holds an auction to raise money for the student-run organization. Students, faculty, staff, donors, alumni, and parents donate a variety of items for the silent and live auctions. Many of the student clubs are represented, selling raffle tickets and food. Proceeds from the auction allow SCAVMA members to attend conferences and symposia throughout the year.

events



▶ **Modern Eye Trunk Show**

Through the continued support of Penn Vet client Dr. Christopher Anastasio (right), Modern Eye held a trunk show to benefit canine cancer research at Ryan Hospital. The trunk show featured eyeglasses and sunglasses designed by Oliver Goldsmith.





◀ **Parents & Partners Weekend**

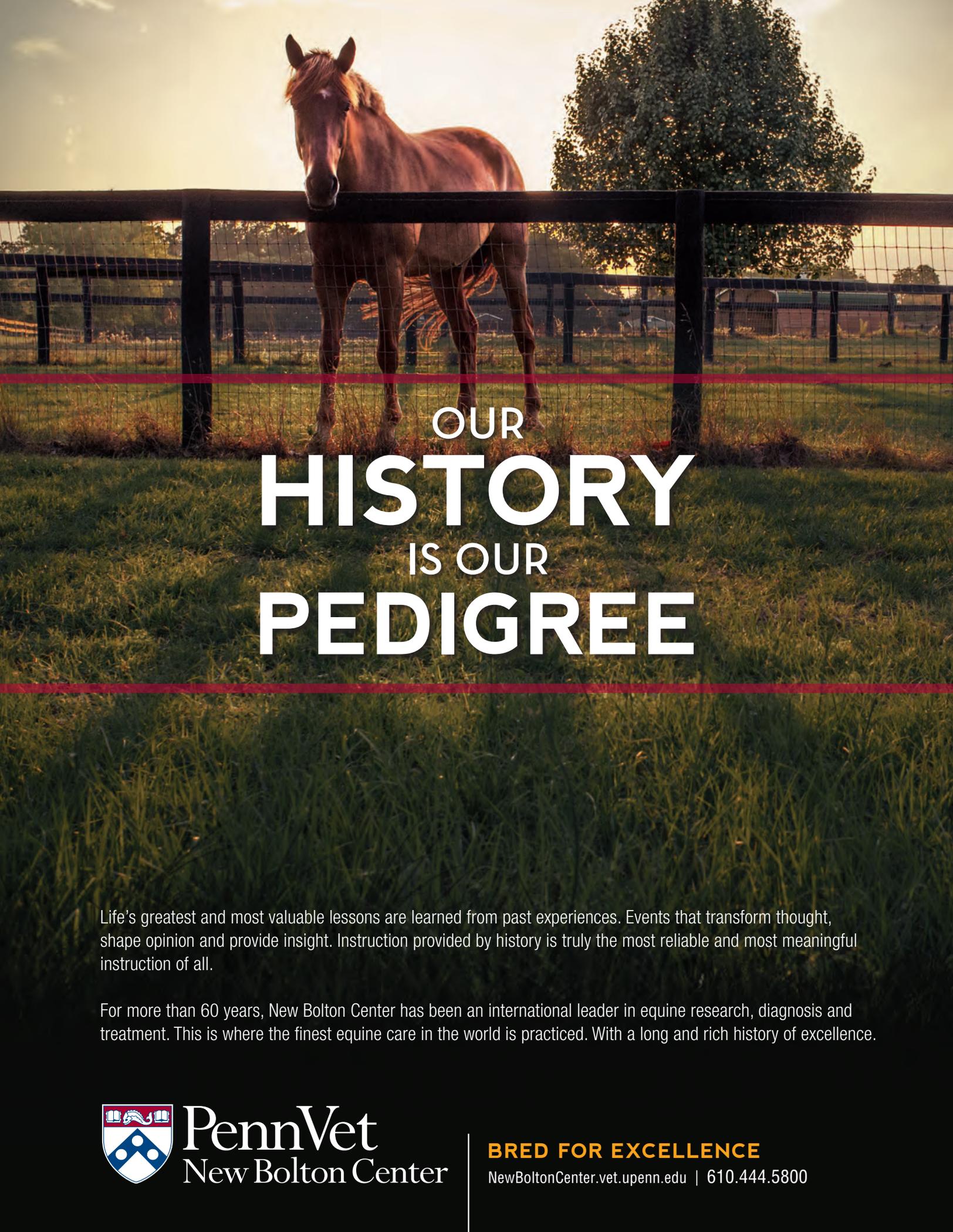
The families, friends, and partners of the fourth-year class are invited to Penn Vet to learn about the lives of veterinary students. Student leadership and school administration address the joys and challenges of veterinary school. Attendees are given tours of the hospitals, labs, and other facilities at the Philadelphia and New Bolton Center campuses.



White Coat Ceremony

The Class of 2015 held their White Coat Ceremony in November 2013, marking the end of their core curriculum and beginning of clinical rotations. Below left, Dean Joan Hendricks imparts some wisdom upon the class. Below right, Class President Samuel Gilbert addresses his classmates and the audience.





OUR
HISTORY
IS OUR
PEDIGREE

Life's greatest and most valuable lessons are learned from past experiences. Events that transform thought, shape opinion and provide insight. Instruction provided by history is truly the most reliable and most meaningful instruction of all.

For more than 60 years, New Bolton Center has been an international leader in equine research, diagnosis and treatment. This is where the finest equine care in the world is practiced. With a long and rich history of excellence.



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“Everyone really wanted to see you succeed,” notes Dr. Vogel about the support and guidance he received as a student, including that from a notable hospital intern at the time, current Dean Joan Hendricks.

—Peter Vogel, V’90

The Power of Planned Giving to Help Future Vets Succeed

BY JILLIAN MARCUSSEN

Like many Penn Vet alumni, Peter Vogel, V’90, always knew he wanted to be a veterinarian. He also knew that he wanted to receive his education and training at a school with a strong small-animal program. Dr. Vogel had a great experience as a Penn Vet student and credits Dr. Meryl Littman, Dr. Dean Richardson, and Dr. Robert Washabau as being particularly influential in his decision to focus on surgery. “Everyone really wanted to see you succeed,” notes Dr. Vogel about the support and guidance he received as a student, including that from a notable hospital intern at the time, current Dean Joan Hendricks.

Upon graduation, Dr. Vogel pursued an internship in Los Angeles at California Animal Hospital, followed by a residency at UC Davis. He then began his first job at a small-animal hospital that he now owns, the Southern California Veterinary Specialty Hospital, recently designated as one of only nine certified Veterinary Trauma Centers in the country (a distinction shared with Penn Vet’s own Ryan Hospital in Philadelphia). One of the largest referral practices in California, the hospital offers a vast array of services, including minimally invasive surgery and a full rehabilitation facility.

When not in the office, Dr. Vogel spends a considerable amount of time abroad, lecturing in various locales, including China, Hong Kong, South Korea, and Japan. He has found that international audiences are eager for the knowledge and expertise of American-trained veterinarians.

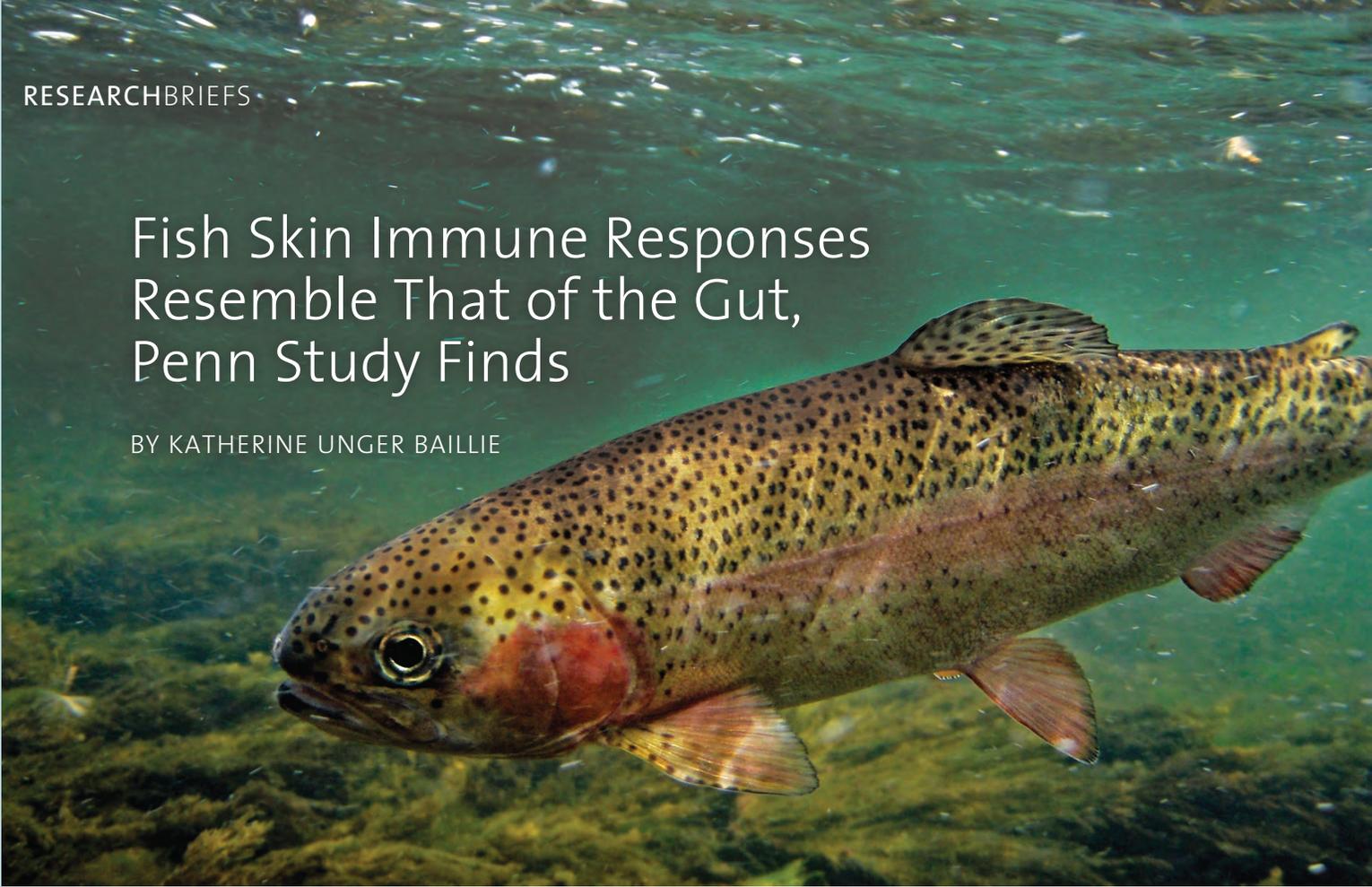
As Past President of the Southern California Veterinary Medical Association, Dr. Vogel has also dedicated himself to strengthening the veterinary profession. He is particularly concerned about the significant loan debt facing many vet school graduates and sees a need to increase public awareness of the value that veterinarians offer to society. With this in mind, Dr. Vogel has included Penn Vet in his estate plans, noting that “the profession has been very good to me and I want to give back by putting my money where it can do the most good. Vet students today face many professional obstacles and I want to do my part to help them succeed.”

By setting up a trust to benefit Penn Vet, Dr. Vogel has become a member of the Veterinary Heritage Circle, a membership society for alumni, clients, and friends who have chosen to support the mission of the School by including Penn Vet in their long-term plans.

To learn more about the Veterinary Heritage Circle and the many ways to make a permanent mark at Penn Vet through a planned gift, please contact Jillian Marcussen, Director of Stewardship and Special Projects, at 215-898-4235 or jillian2@vet.upenn.edu. 

Fish Skin Immune Responses Resemble That of the Gut, Penn Study Finds

BY KATHERINE UNGER BAILLIE



Fish skin is unique in that it lacks keratin, the fibrous protein found in mammalian skin that provides a barrier against the environment. Instead, the epithelial cells of fish skin are in direct contact with the immediate environment: water. Similarly, the epithelial cells that line the gastrointestinal tract are also in direct contact with their immediate milieu.

“I like to think of fish as an open gut swimming,” said Dr. J. Oriol Sunyer, a professor in the the Department of Pathobiology at Penn Vet.

Building on this observation, a study led by Sunyer’s group at Penn Vet found that, not only does fish skin resemble the gut morphologically, but that key components of skin immune responses are also akin to those of the gut.

“In fish, the skin and the gut have much in common: they are both constantly exposed to environmental insults, they both have a large and varied microbiota, and they both contain mucosal surfaces,” Sunyer said. “So we hypothesized that the skin should have a similar immune response to the gut, and this is indeed what we found.”

The results, published in the journal *PNAS*, not only are of interest on the level of basic science and evolution, but also have important implications for the way that

fish vaccines will be designed and tested, since a large number of fish pathogens enter through the skin.

The current work is based on a 2010 finding from Sunyer’s lab, published in *Nature Immunology*. In that study, scientists reported for the first time that rainbow trout produce an antibody known as IgT in their gut. This immunoglobulin is responsible for gut mucosal immunity.

Because of the similarities between a fish’s gut and skin, Sunyer’s team went on the hunt for IgT in the skin tissue of rainbow trout. When they examined B cells, which produce immunoglobulins in response to foreign invaders, such as parasites and bacteria, they found that the majority of B cells in the skin were expressing IgT, suggesting that this immunoglobulin was playing an important role there.

Next, the researchers took a closer look at the bacterial community, or microbiota, living on the trout’s skin. In mammals and birds, IgA has been found to help prevent the “friendly” bacteria of the gut microbiota from invading the body and causing illness, leading Sunyer’s team to hypothesize that IgT might be playing a parallel role in the skin of fish. In addition, earlier work by



SUNYER

“In fish, the skin and the gut have much in common: they are both constantly exposed to environmental insults, they both have a large and varied microbiota, and they both contain mucosal surfaces,” Sunyer said. “So we hypothesized that the skin should have a similar immune response to the gut, and this is indeed what we found.”

—*J. Oriol Sunyer*

Sunyer’s team found IgT coating bacteria in the intestinal microbiota.

In the current study, when the researchers examined the skin microbiota, they found that a significantly higher percentage of bacteria were coated by IgT than by IgM, another fish immunoglobulin. More critically, greater than 50 percent of the IgT present in the skin mucus was involved in coating bacteria. These findings suggest that IgT is involved in regulating host-microbiota homeostasis. In other words, IgT appears to play a role in maintaining a stable relationship between the fish and the bacterial community living in its skin.

To see how IgT functioned in response to infectious agents, the researchers exposed trout to a parasite that causes white spot disease, a common affliction that targets the skin of farmed, wild, and aquarium fish. Compared with uninfected fish, infected fish that survived parasite exposure had many more IgT-producing B cells than IgM-producing B cells in their skin. Moreover, the skin mucus of surviving fish contained only IgT but

not IgM, which specifically recognized the parasite. Conversely, IgM represented the main parasite-specific immunoglobulin in the serum of these animals. Taken together, these results demonstrate that IgT is the pivotal skin immunoglobulin generated in response to pathogenic infection.

According to Sunyer, the parallel immune responses in the fish gut and skin are likely the result of these body areas having been subjected to very similar evolutionary selective forces. They also appear to represent an example of convergent evolution with the IgA-mediated mucosal immunity in mammals. In conjunction with earlier work from Sunyer and others, the findings underline that many aspects of mucosal immune responses of fish and mammals operate under the guidance of primordially conserved principles, thus demonstrating the value of bony fish as model organisms.

“Discoveries we make in fish about the fundamental mechanisms of mucosal immunity may help us come up with paradigms of immunity in mammals that are yet to be discovered,” Sunyer said. “There is a very important translational component.”

The work could also help pave the way for improved fish vaccines — important tools in the burgeoning aquaculture industry.

“The skin is a very important portal for fish pathogens,” Sunyer said. “Now that we are starting to understand how mucosal immunity works in the skin and that IgT is the key immunoglobulin there, we can target it and evaluate it when designing new vaccines.”

Moving forward, Sunyer’s team plans to examine how fish skin’s microbiota regulates skin immunity as well as the role of IgT in influencing host-microbiota homeostasis. They also seek to develop new vaccine strategies that will induce IgT immune and protective responses in the skin and other mucosal body parts. 

Sunyer’s coauthors included Zhen Xu, David Parra, and Daniela Gómez of Penn Vet; former Penn Vet postdoctoral researchers Irene Salinas and Yong-An Zhang, who are now faculty members at the University of New Mexico and the Chinese Academy of Sciences, respectively; Louise von Gersdorff Jørgensen, Rasmus Demuth Heinecke, and Kurt Bachmann of the University of Copenhagen; and Scott LaPatra of Clear Springs Food.

The research was supported by grants from the National Institute of General Medical Sciences and the National Science Foundation.

WE SPEAK SOPHIE

WE ALSO SPEAK MINIMALLY INVASIVE SURGERY



At Penn Vet, we understand that your pets are valued members of the family. So when they need surgery, turn to Penn Vet's Ryan Hospital for the most advanced minimally invasive techniques available in veterinary medicine.

Our board-certified specialists perform minimally invasive surgeries so that your pet experiences less pain, recovers more quickly, and has a better outcome.



GREENBERG



LOK



MURPHY



PARSONS

GRANTS

Gus Aguirre, VMD, PhD, received a three-year, \$149,500 grant from the Poodle Club of North America Foundation for “Genetic test development for optic nerve hypoplasia, micropapillae, and juvenile cataracts in poodles.”

Igor Brodsky, PhD, received a four-year, \$985,000 NIH R01 grant for “Modulation of Inflammasome Activation by Yersinia.”

Beth Callan, VMD, received a one-year, \$56,750 grant from the AKC-Canine Health Foundation for “Effect of duration of red blood cell storage on transfusion-associated inflammation in dogs with immune-mediated hemolytic anemia.”

Serge Fuchs, PhD, received a five-year, \$3,671,501 NIH/NCI grant for “The Unfolded Protein Response in Cancer.”

Robert Greenberg, PhD, received a \$100,000 Gates Grand Challenges Explorations grant for “Helminth ABC transporters as targets for combination therapy.”

Ron Harty, PhD, received a two-year, \$247,500 NIH R21 grant for “Innate immune regulation of intracellular pathways involved in Filovirus budding.”

Rebecka Hess, DVM, received a one-year, \$12,000 grant from the AKC-Canine Health Foundation for a Clinician Scientist fellowship for Abigail Bertalan, VMD.

Christopher Hunter, PhD, received a five-year, \$1,125,000 NIH R01 grant for “IL-27 and Treg Cells.”

Anna S. Kashina, PhD, received a four-year, \$868,832 NIH/GM R01 grant for “Molecular Mechanisms of Protein Arginylation.”

Leszek K. Kubin, PhD, received a three-year, \$738,000 NIH/HLB R01 grant for “Upper airway control during disrupted and misaligned sleep.”

James Lok, PhD, received a five-year, \$1,235,000 NIH R01 grant for “Insulin-like signaling in parasitic nematode development.”

Carolina Lopez, PhD, received a one-year, \$50,000 grant from the UPENN Research Foundation for “Defective viral genomes in human respiratory secretions.”

Lisa Murphy, VMD, received a five-year, \$450,000 FDA U18 grant for “Method validation and comparison for the detection of mycotoxins in novel animal feeds and tissues.”

Cindy Otto, DVM, PhD, announced that the Penn Vet Working Dog Center received a \$75,000 matching grant from the Salah Foundation.

Thomas Parsons, VMD, PhD, received a one-year, \$10,000 grant from the PA Soybean Promotion Board for “Anticipating the next welfare challenge: Environmental enrichment of gestating sows.”

Ellen Puré, PhD, received a two-year, \$200,000 grant from the Cancer Research Institute CLIP Award for “Adoptive T cell therapy targeted to tumor stroma to treat lung cancer.” Dr. Puré also received a one-year, \$165,300 NIH/NCI grant for “Mammalian Regeneration, high fat diets, and breast cancer: A common link?” In addition, she received a two-year, \$60,000 grant from the Cancer Research Institute Fellowship Award for “Regulation of inflammatory and immune response to pancreatic cancer by FAP+ stromal cells.”

Dieter Schifferli, DVM, PhD, received a three-year, \$350,000 grant from the USDA for “Allelic variation of Salmonella colonization factors.”

J. Oriol Sunyer, PhD, received a three-year, \$352,899 USDA-NIFA grant for “Role of fish immunoglobulin IgT in skin and gill mucosal immune and protective responses.”

Charles Vite, DVM, PhD, received a new, \$150,000 grant from the Center for Orphan Disease Research and Therapy for “Antemortem 3D EPSI metabolic mapping of the canine MPS I brain.” Dr. Vite also received a two-year, \$100,000 grant from the National Niemann-Pick Disease Foundation and a one-year, \$44,000 grant from Support of Accelerated Research for “AAV-mediated intrathecal therapy of feline NPC1 disease.”



AGUIRRE



ALTHOUSE



DeFAZIO



HANKENSON

FACULTY/STAFF NEWS

Gus Aguirre, VMD, PhD, received the American Veterinary Medical Association Lifetime Excellence in Research Award for more than four decades of research on degenerative retinal diseases affecting both dogs and humans.

Gus Aguirre, VMD, PhD, Urs Giger, DVM, PD, and **Paula Henthorn, PhD**, gave presentations on the molecular, genetic, and therapeutic advancements of canine retinal diseases, feline porphyria, and canine cystinuria at the 7th International Canine and Feline Genome and Hereditary Disease Conference in Boston, MA.

Gary Althouse, DVM, PhD, was elected President of the American College of Theriogenologists for 2013–14.

Raymond Boston, PhD, the first Penn Vet Chief of Biostatistics and a Penn Vet Professor of Applied Biomathematics, retired in 2013 after 22 years at Penn. Dr. Boston is well-known for his invention of computer models that have proven key to medical advances, especially in diabetes research.

The treatment of the first baby with ectodermal dysplasia was made possible by the work of **Margret Casal, DVM, PhD**.

Jamie DeFazio, CVT, VTS-EVN, spoke at the American Veterinary Medical Association conference.

Giacomo Gianotti, DVM, DVSc, is now a Diplomate of the American College of Veterinary Anesthesia and Analgesia.

Michael Goldschmidt, BVMS, was an invited participant on the Comparative Melanoma Tumor Board, sponsored by NIH to bring together expert human and veterinary pathologists to compare and contrast the histologic features and pathobiology of mucosal melanomas in humans and in dogs, and to assess the utility of dogs as a spontaneous preclinical model for piloting therapeutic investigations.

Karen Gries, CVT, graduated from St. Joseph's University with an MBA in Pharmaceutical & Healthcare Marketing.

F. Claire Hankenson, DVM, received the Total MRO “Veterinarian of the Year” Award from the Delaware Valley branch of the American Association for Laboratory Animal Science for outstanding accomplishments in the field of laboratory animal science and contributions in education, training, and animal care. Dr. Hankenson was also elected Vice President of the American College of Laboratory Animal Medicine. In addition, her textbook, *Critical Care Management for Laboratory Mice and Rats*, was published.

David Holt, BVSc, and **Jeffrey Runge, DVM**, participated in a panel discussion at the American College of Veterinary Surgeons in San Antonio, TX, on the translational aspects of veterinary and human gastrointestinal surgery.

Meryl Littman, VMD, gave a presentation about “PLN-associated variant alleles in Soft-Coated Wheaten Terriers” for the Soft-Coated Wheaten Terrier Association of Canada at the National Specialty Dog Show in Calgary, Alberta. She also gave a presentation about “PLN-associated variant alleles in Airedales” for the Airedale Club of America during the Montgomery County Kennel Club All-Terrier Show.

Dan Morris, DVM, spoke at the Southern European Veterinary Conference in Barcelona, Spain.

Cindy Otto, DVM, PhD, gave the keynote address at the German Shepherd Dog Club of America Centennial, delivered a presentation at the International Working Dog Conference, and presented first aid courses in Dayton, OH and Philadelphia, PA.

Alexander Reiter, Dipl. Tzt., gave an advanced course on oral and maxillofacial surgical techniques in small animals for the German Society of Veterinary Dentistry and Oral Surgery in Stuttgart, Germany. He then gave a lecture on jaw fracture repair in cats and dogs for the veterinary surgery faculty and staff of the Ludwig Maximilian University of Munich. Dr. Reiter also lectured and was a wet lab instructor at the Veterinary Dental Forum in New Orleans, LA.



SILVERSTEIN



SLEEPER



COLE



WRIGHT

Jeffrey Runge, DVM, lectured and was a laboratory instructor at the University of Georgia Advanced Minimally Invasive Course.

Patricia Sertich, VMD, gave two presentations at the Society for Theriogenology's Annual Meeting in Lexington, KY.

Deborah Silverstein, DVM, lectured and was a laboratory instructor at the International Veterinary Emergency and Critical Care 2013 Symposium in San Diego, CA.

Meg Sleeper, VMD, spoke at Emory University about cardiovascular disease in non-human primates and heart disease in chimpanzees.

Billy Smith, DVM, spoke at the 18th Annual American Board of Veterinary Practitioners Symposium, covering topics including "The Transition Cow," "Mycoplasma in Dairy Cattle," and "Lameness in Dairy Cattle."

Gary Smith, DPhil, presented a poster at the 4th Epidemics Conference in Amsterdam on "Estimating

reductions in the lifetime risk of schizophrenia caused by reductions in the prevalence of human *Toxoplasma gondii* infections." Dr. Smith also gave a talk to the Counter-Terrorism, Socio-Cultural Analysis, and the Force Health Protection divisions of U.S. Africa Command in Stuttgart, Germany on "Agroterrorism: the changing context and the crystal-ball problem."

Lawrence Soma, VMD, retired in 2013 after more than 50 years at Penn Vet. Dr. Soma was instrumental in establishing anesthesia as a specialty discipline within clinical veterinary medicine. His extensive research in forensic pharmacology was key in the development of effective drug testing regulations for racehorses.

Corinne Sweeney, DVM, was re-appointed to the PA Racing Commission.

Charles Vite, DVM, PhD, spoke at the American Association for Laboratory Animal Science in Baltimore, MD on gene therapy of the dog and cat brain.

STUDENT NEWS

Stephen Cole, V'15, received the Western Veterinary Conference's Dr. Jack Walther Leadership Award, which recognizes veterinary student leaders and promotes lifelong professional service.

Kate Huebner, V'15, received the Amstutz Scholarship through the American Association of Bovine Practitioners.

Ana Malone Oliver, V'15, was awarded second place in the Student Case Study Competition at the Society for Theriogenology's Annual Meeting for her talk titled "Single Mummified Fetus in a Mare."

Divya Ramnath, V'16, received the inaugural Schad Prize in Parasitology. The award, named for late Dr. Gerry Schad, a beloved Penn Vet Professor of Parasitology, is given to the student with the highest numerical average in the Parasitology core.

Nikki Wright, V'14, received the Pennsylvania Veterinary Medical Association's Public Service Award of Merit for her work with Pou Sante: Amar Haiti. The



RAMNATH AND LOK

award is presented to a member of the PVMA for an outstanding act or achievement of public service. Ms. Wright also completed the CDC-Hubert Global Health Fellowship, designed to encourage medical and veterinary students to gain a global perspective of public health through an experiential learning opportunity.

Kathy Michel Named Associate Dean of Education

Dr. Kathy Michel was appointed Associate Dean of Education for Penn Vet, following the retirement of Dr. Tom Van Winkle. She assumed the position on January 1, 2014.

As Associate Dean, Dr. Michel will ensure that the School maintains its accreditation by the American Veterinary Medical Association Council on Education. As part of this ongoing process, Dr. Michel will develop evidence-based methods to measure the School's effectiveness in educating career-ready veterinarians. One such measure will be to define, track, and evaluate students' clinical competencies.

Another important component of Dr. Michel's new role will be to lead the charge in assessing the School's curriculum. "One way to innovate our curriculum is to incorporate areas that have not had a formal emphasis in the past," Dr. Michel said, including the development of "soft skills" such as business/practice management, professionalism, ethics, and communications.

Penn Vet has always been a leader in veterinary education, and this next phase of curriculum development will undoubtedly carry on that tradition. "Penn Vet leads in providing our students with a rich background in biomedical science and preparing them for incredible, diverse career paths," Dr. Michel said.

Given her passion for developing curriculum, Dr. Michel also hopes to create professional development opportunities for faculty. "My idea is to help our faculty develop themselves professionally as educators, but do it in a way that is as non-burdensome as possible."

To this end, she hopes to have valuable resources available for faculty, focusing on topics such as innovation in education, fundamentals of pedagogy, how adults learn, and new ways of delivering information to students.

Dr. Michel is eager to spend more time with Penn Vet students. "Our students are remarkable," she said. "I never cease to be amazed by their energy, dedication, and the breadth of their interests. It's such a gift to be able to work with them."

"I am delighted that Dr. Michel will continue to move our educational program forward. Not only is she a dedicated and innovative teacher herself, but she also brought formal communications training to our curriculum," said Penn Vet Dean Joan Hendricks.

"Dr. Michel's steadfast dedication to Penn Vet, along with her enthusiasm and vision for the future will take us to new heights. As she completes her formal training at Penn's Graduate School of Education, Dr. Michel is poised to professionalize our teaching programs and create pioneering methods for measuring learning and teaching outcomes. We look forward to watching both our faculty and students thrive under her leadership."



MICHEL

Dr. Michel's career at Penn spans more than 25 years. In addition to serving as Associate Dean of Education, Dr. Michel is Professor of Nutrition at Penn Vet. She is a Diplomate and former Chair of the Board of Regents of the American College of Nutrition. Her research interests include nutritional assessment, nutritional requirements of hospitalized companion animals, nutrient modulation of gastrointestinal and endocrine diseases, and obesity treatment and prevention.

Dr. Michel received her bachelor's degree from Mount Holyoke College and her DVM from Tufts University. She completed a residency in small-animal clinical nutrition and a master's degree at the University of Pennsylvania, followed by a postdoctoral fellowship with the Nutrition Support Service at the University of Pennsylvania School of Medicine.

She was awarded the Jack Mara Scientific Achievement Award by the American College of Veterinary Emergency and Critical Care for her contributions to critical-care nutrition.

She is currently pursuing a master's degree in medical education at the University of Pennsylvania Graduate School of Education. 

“Penn Vet leads in providing our students with a rich background in biomedical science and preparing them for incredible, diverse career paths.”

—Kathy Michel



Carol Pooser Named Assistant Dean of Advancement, Alumni Relations, and Communications

On September 16, 2013, Carol Pooser assumed the position of Assistant Dean of Advancement, Alumni Relations, and Communications.

In this role, Carol oversees the conceptualization, planning, and execution of strategic fundraising initiatives, constituent relations, and communications for Penn Vet. She works closely with the Penn Vet Board of Overseers, as well as faculty and staff in the School's hospitals, research laboratories, and academic departments.

"We are extremely fortunate to have Carol join our stellar team," said Penn Vet Dean Joan Hendricks. "She brings vast experience and a strong commitment to the School. Her expertise will be invaluable as we continue to raise the profile of Penn Vet as a leading veterinary institution."

Carol's appointment marks her return to the University of Pennsylvania. She previously served as Executive Director of External Affairs for the School of Arts and Sciences from 2007-2011.

Over the past 20 years, she has held a variety of positions in higher education and community-based non-profits. Most recently, she served as Director of Funding Initiatives at Columbia University's Earth Institute.

Carol also formerly worked in various development capacities at the Marine Biological Laboratory, the University of Florida College of Medicine, and the Florida Museum of Natural History.

A seasoned fundraiser, she brings extensive knowledge of major gift fundraising, capital campaign and mission-based fundraising, annual fund and membership activities, and marketing and public relations programs.

"I am thrilled to return to Penn and honored to join the wonderful Penn Vet team," Carol said. "The work being done here is truly remarkable and I look forward to further showcasing how Penn Vet leads." 

“I am thrilled to return to Penn and honored to join the wonderful Penn Vet team,” Carol said. “The work being done here is truly remarkable and I look forward to further showcasing how Penn Vet leads.”

—Carol Pooser



Dr. Charles W. Raker

in memoriam

Dr. Charles W. Raker

7/7/20 – 2/16/14

Dr. Charles W. Raker, one of the founding fathers of Penn Vet's New Bolton Center, died peacefully on February 16. Dr. Raker was a giant of equine veterinary medicine, renowned as a great surgeon, an adroit, gracious teacher, and a compassionate, caring clinician. His professional career spanned 43 years, and even in retirement he remained actively involved at Penn Vet, sharing with students and colleagues the benefit of his matchless wisdom, experience, and understanding for more than 20 years. His contributions to equine veterinary medicine were legion; he was a pioneer, an innovator, and an incomparable leader, having trained many of today's equine surgeons.

Dr. Raker graduated from Penn Vet in 1942. He was born on July 7, 1920, and grew up in Daylesford in Chester County, PA. He knew from an early age that he wanted to be a veterinarian and spent time working with livestock on a neighbor's farm, as well as gaining experience with companion animals from the local veterinarian. Dr. Raker spent eight years in private practice following graduation, but in 1950, responded to a request from his alma mater to take the position of Assistant Professor of Veterinary Medicine to boost its livestock and large-animal curriculum. To quote Dr. Raker, "I looked on teaching as a challenge and never looked back."

When New Bolton Center opened in 1952, Dr. Raker took a "crash course" in surgery at Cornell University, with a focus on large-animal surgery, to help fill a void created by the loss of two veterinary surgeons. He was appointed Chairman of the then Department of Surgery in 1956. In 1967, three years after the construction of the School's first large-animal hospital on the New Bolton Center campus, he was the recipient of the Lawrence Baker Sheppard Endowed Chair in veterinary surgery – the first in the nation and funded through the generosity of Hanover Shoe Farms, the famous Standardbred breeding and training facility in central Pennsylvania. It was an appointment of which Dr. Raker was tremendously proud.

Dr. Raker was a Charter Diplomate of the American College of Veterinary Surgeons, an organization he helped found in 1965. Over the years he served as its Examination Committee Chair, Chair of the Board of Regents, Vice President, and finally as President from 1975-76.

During the almost 30 years Dr. Raker served as Chief of Large Animal Surgery at New Bolton Center, he introduced new surgical techniques and inspired and mentored countless students, interns, and residents. His mantra for students, house officers, and clinicians alike was, "Remember the four 'Cs' – be a caring person, a compassionate person, a competent person, and remember that communication is vital to success in all things."

In 1985, the Charles W. Raker Chair in Equine Surgery was established principally through the generosity of longtime clients of New Bolton Center, Mr. and Mrs. Hardie Scott, but significantly augmented by grateful alumni. The Chair honored Dr. Raker for his "seminal contributions to equine surgery and his penchant for mentoring aspiring young faculty." It is held today by Dr. Dean W. Richardson, Chief of New Bolton Center's Section of Surgery and a beneficiary of Dr. Raker's teaching and mentoring expertise.

In addition to honors from Penn Vet, Dr. Raker was recognized by the American Association of Equine Practitioners (AAEP) in 2000 with its Distinguished Educator Award. In 2007, he received the American College of Veterinary Surgeons' esteemed Foundation Legends Award, given to "an individual who has developed a surgical

or diagnostic procedure of significant value, proven by becoming the treatment or test of choice for a given condition.” The AAEP bestowed its very prestigious Sage Kester Beyond the Call Award in 2010, an honor about which Dr. Raker said, “This is the most significant and prestigious award I have ever received in my career in veterinary medicine.”

Dr. Raker’s achievements in his chosen profession would fill an entire book. Possibly the best way to honor him and pay tribute to all that he has done is to listen to the words of those who knew him and learned from him. The late Dr. Olive K. Britt was the first female intern-resident in the large-animal clinic at Penn Vet, and was appointed by Dr. Raker. She was also the first female equine practitioner in Virginia and counted among her patients the legendary *Secretariat*. Dr. Britt said of Dr. Raker, “He was the man most responsible for my success. He fashioned in me the knowledge to become an accomplished equine practitioner. He was at all times available to his students. Even after they graduated, he considered them members of his team. A brilliant, strong leader, he used his abilities in such a gentle, gracious manner that he coaxed from his students their best efforts. He taught me how to talk to clients to lessen their distress and not to offend. He taught me honesty. ‘When you lack an answer,’ he said, ‘tell people you don’t know, but that you’ll make every effort to find out.’”

Dr. Midge Leitch, another renowned Penn Vet equine practitioner and teacher, who sadly predeceased Dr. Raker by a day, said of him, “It was Dr. Raker who taught so many of us that professionalism and care go hand-in-hand.” And in a 2012 blog by Sarah M. Khatibzadeh, Class of 2014, Cornell Veterinary School, she observed, “Unlike many veterinarians of his generation, Dr. Raker promoted the inclusion of women in large-animal practice, and mentored the first female large-animal surgical residents... he is a wonderful and inspiring legendary equine surgeon. His professionalism, kindness, and humility are traits to which all veterinarians should aspire.”

Not only a wonderful, exceptional surgeon and teacher, Dr. Raker cared deeply about Penn Vet’s New Bolton Center. He spent much of his retirement “returning some of the honor and opportunity that the School and profession have given me.” This he did by mentoring students, consulting with his former colleagues, and supporting with generous gifts primarily the School’s Opportunity Scholarship program, which was his brainchild, as well as other scholarship funds and large-animal hospital needs. Penn Vet awarded him its prestigious Bellwether Medal for Distinguished Leadership for his many and diverse services to the School.

Gretchen Jackson, a longtime client and supporter of New Bolton Center, and known as the breeder and owner of famed Kentucky Derby winner, *Barbaro*, said of Dr. Raker, “I loved Dr. Raker so much. As everyone else did. Oh, how he will be missed. There was no one like him.”

Dr. Dean Richardson commented, “The greatest honor I have had in my career is holding the Charles W. Raker endowed professorship here at Penn Vet. To hold a position named after a person so widely admired is an inestimable privilege. He was such a generous and humble man, and one who was so well loved by his clients that it was no surprise to anyone that it took no time at all to get a professorship endowed in his name. Charlie was a remarkably fair, honest, and open-minded person. I called him ‘Dr. Raker’ for well over 20 years, but he finally forced me to stop doing so. No matter what you called him, Charlie Raker was simply a great human being.”

New Bolton Center’s Associate Dean and Executive Director of its large-animal hospital, Dr. Corinne Sweeney, said, “Dr. Raker was a quiet giant, a gentleman, modest and humble, a trusted man of integrity. He was such an important figure in the history of veterinary surgery, and of New Bolton Center, so accomplished and respected worldwide. And yet he was so giving of his time and was so willing to share his talents. He made a lifelong, lasting impression on the students, interns, and residents he trained who have gone on to distinguished careers around the world. What a legacy!”

Penn Vet Dean Joan Hendricks said, “I was extremely fortunate to get to know Charlie when I became Dean – although it was my loss that I was not taught by him as a veterinary student. In addition to benefiting from his warmth, wisdom, and connection to Penn Vet and especially its students, I am grateful that he shared generously his insights into leadership, faculty, and the equine community. My favorite memory is of him receiving the award from the AAEP, when the enormous audience expected a frail, elderly figure to say a few words – and he gave a vigorous, patented Raker lecture urging them to action. It was very special, vintage Charlie, and wonderful to see the equine veterinary world share what we at Penn Vet have been able to enjoy for decades. But it still wasn’t enough time. I will miss him every day I am at New Bolton Center.”

Dr. Raker’s influence is hard to quantify – it covers so many aspects of equine veterinary medicine, teaching, and research. But it will live on in perpetuity in the great works of those he taught, and their students. He was above all a great teacher, and it is teaching that can and does change the world.



Dr. Midge Leitch

in memoriam

Dr. Midge Leitch
2/27/46 – 2/15/14

The veterinary profession lost one of its luminaries on February 15 when Dr. Midge Leitch lost her valiant battle with cancer. Dr. Leitch was in the vanguard of women entering veterinary medicine and one of the first to do a surgical residency at Penn Vet's New Bolton Center after graduating from the School in 1973. She was one of the first women equine practitioners to become board-certified by the American College of Veterinary Surgeons, achieving that distinction in 1982. In 1988, she was given Penn Vet's Alumni Award of Merit.

Following four years as a member of New Bolton Center's surgical staff, Dr. Leitch went into private practice. She established herself as an extraordinarily gifted general practitioner and equine veterinary consultant. Her practice covered a variety of disciplines, including show jumping, dressage, combined driving, three-day eventing, endurance, and racing. Dr. Leitch served as an official veterinarian to the US Equestrian Team, providing skilled services to elite equine athletes in Poland, Sweden, Austria, Italy, Hungary, Canada, and Spain. She was in attendance at the Atlanta Olympics in 1996 and the Sydney Olympics in 2000, when the US won a gold medal in eventing. Dr. Leitch also provided veterinary support at a number of renowned national events, such as the Devon Horse Show, the Washington International Horse Show, the Radnor Three Day Event, Fairhill Three Day Event, and Dressage at Devon.

Dr. Leitch was an active member of the American Association of Equine Practitioners for more than 40 years. In 2008, she was honored with its President's Award, and in 2012, the AAEP Distinguished Service Award. During her career she gave more than 60 invited lectures and papers, and contributed more than 40 publications to a wide variety of professional journals and books.

From 1996 until 2006, Dr. Leitch held the position of Adjunct Assistant Professor of Surgery at New Bolton Center. From 2005 until 2011, she was Staff Veterinarian in the Section of Sports Medicine and Imaging, teaching students, caring for patients, and sharing her vast knowledge with everyone with whom she came into contact.

Dr. Leitch – born on February 27, 1946 – lived in Cochranville, PA. She earned her undergraduate degree from Goucher College in 1968.

In addition to her remarkable professional career, Dr. Leitch was a devoted alumna, supporting a variety of initiatives at Penn Vet. She cared deeply about helping students, in particular through the Opportunity Scholarship program. Her community and civic activities included involvement with the Southern Chester County Soccer Association; Londonderry Township, where she served as a supervisor for several years; Canine Partners for Life; and The Seeing Eye, for which she served as a puppy-raiser until her death.

Dr. Dean Richardson, Chief of New Bolton Center's Section of Surgery, a close friend and colleague of Dr. Leitch's for many years, said of her, "There is simply no way to overstate how much Midge meant to me and so many others. When I arrived at New Bolton Center in 1979, she was an absolute dynamo, and she never really slowed down during her brilliant career. It was a boon

“Midge was brilliant. She had that unique combination of book-smarts and street-smarts, with impeccable judgment. If you were wise, you would seek her advice, and if you were *really* wise, you would follow it. She was always a fierce advocate for those she cared for and respected. There was no one more loyal to friends and to New Bolton Center staff members than Midge. For these reasons, and many others, her passing leaves a huge void in this community.”

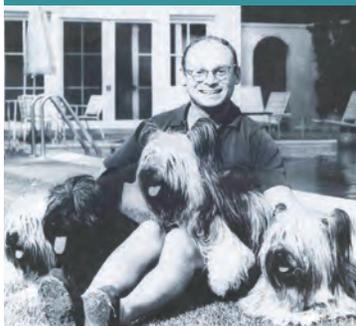
to our hospital and the School when she agreed to oversee our radiology service. To have someone with her decades of experience and hard-won knowledge right here for students, residents, and faculty was an incredible gift. An amazing, paradoxical combination of a steely-eyed realist and a soft-hearted animal lover...a hard-driving, critical drill sergeant of an instructor and a caring, giving teacher...an intensely ethical practitioner with a ‘get them to the ring’ practicality. There were so many things about Midge that made her different than most people. For those who knew her well, she was sometimes hard as hell to like and even easier to love. She was absolutely one of a kind and will be terribly missed.”

Dr. Corinne Sweeney, Associate Dean and Executive Director of New Bolton Center’s large-animal hospital, offered this tribute: “Midge was brilliant. She had that unique combination of book-smarts and street-smarts, with impeccable judgment. If you were wise, you would seek her advice, and if you were *really* wise, you would follow it. She was always a fierce advocate

for those she cared for and respected. There was no one more loyal to friends and to New Bolton Center staff members than Midge. For these reasons, and many others, her passing leaves a huge void in this community.”

Penn Vet Dean Joan Hendricks said: “Midge was a major influence on my veterinary student training, and again was important to me when I became Dean. Honest, frank, insightful, smart, and willing to still be a friend even when she disagreed. Her time here was far too short, but she gave her friends – including the many four-legged ones – intense loyalty, affection, and care.”

Dr. Leitch was known as a passionate and caring individual, with forthright opinions and a well-developed sense of humor. Her gifts not only to veterinary medicine, but also to her community, family, and friends are legion. She will indeed be very greatly missed.



Walter Flato Goodman

in memoriam

Walter Flato Goodman

Walter F. Goodman, 91, died in Miami, FL on the afternoon of October 6, 2013, the day of the Montgomery County Kennel Club All-Terrier Show. A successful breeder and exhibitor of Skye Terriers, Walter served on Penn Vet's Board of Overseers from 1986 to 2005. He was a friend to the School's deans and a generous supporter of the School's programs. In particular, he was interested in furthering canine health through the study of genetics. To that end, he and his son Robert A. Flanders established irrevocable trusts to support the Walter Flato Goodman Center for Comparative Medical Genetics, dedicated to clinical and basic research of animal genetic diseases that also afflict humans.

Walter was introduced to Penn Vet by Josephine Deubler, V'38, a fellow terrier exhibitor and judge and close friend. Walter commissioned the painting of Josephine Deubler that hangs in the School's lobby.

A world traveler with a keen interest in other cultures, art, music, and architecture, Walter was a terrific teller of stories. His great love was the world of dogs. In addition to breeding and showing Skye Terriers, he was a tireless steward of the sport of dogs.

Dean Joan Hendricks says, "Walter was such a professional in the dog world and so highly regarded. My special memories include visiting him in his wonderful Miami condo – where terriers were present in oil paintings, photos, and sculptures – and joining him for dinner before the Montgomery County Kennel Club All-Terrier Show – the premier event of its kind, where he was royalty. Walter was always humorous, dynamic, funny, and warm. I feel truly blessed to have had the opportunity to know him."

Former Dean Edwin J. Andrews remembers, "Walter was always a great friend of Penn Vet, providing access to the Westminster Kennel Club and many other dog-oriented groups. Despite his devotion to Penn, he had a particular level of 'preference' when it came to dining, always choosing the Yale Club of New York to the Penn Club as a venue for lunches. He had a special table on the rooftop garden, which always made for memorable events. He will be dearly missed."

Alan M. Kelly reminisces, "When I first came into the Dean's office in 1994, several of the School's friends and benefactors came to meet with me. Among them was Walter. He was very positive and supportive of the School. For a novice dean entering an entirely new world, it was a very reassuring encounter. The next time I saw Walter, he was serving as Best in Show judge at Westminster, beaming and having a wonderful time in the middle of the ring. It didn't change in the years that followed. Walter was exceedingly generous to the School and was one of the most loyal members of our Board of Overseers. He will be remembered as a happy, stylish gentleman with an infectious smile."

Walter's accomplishments will stand for many years:

- › One of the most successful breeder-owner-handlers in the sport with more than 300 Terrier group wins and 99 Best in Show wins, including Westminster in 1969
- › Winner of the 1962 and 1963 Ken-L Ration (Quaker Oats) Owner-Handler Award, 1969 and 1971 Kennel Review's Male Owner-Handler of the Year, and 2011 AKC Lifetime Achievement Award

Goodman cont'd.

- › Inducted into the Anne Rogers Clark Hall of Fame at the 2012 Show Dogs of the Year Awards
- › Judge of Terrier breeds, Best in Show, and Junior Handling in the USA and internationally
- › Founding member of the Museum of the Dog
- › Founding member of the AKC Canine Health Foundation
- › Delegate, Skye Terrier Club of America, 1951-2012
- › Member, Penn Vet Board of Overseers, 1986-2005
- › President, Montgomery County Kennel Club, 1986-2010
- › Member, AKC Board of Directors, 1988-2012
- › President Emeritus, Montgomery County Kennel Club, 2011-2013

Walter F. Goodman is survived by his son Robert A. Flanders, five nieces and nephews, three great-nieces, his many friends, and his beloved Norfolk Terrier, Gypsy.

— HELMA WEEKS



in memoriam

Anne French Thorington

Penn Vet lost an incomparable friend and ally on December 15, 2013, when Mrs. Anne French Thorington died suddenly following a brief hospitalization. Mrs. Thorington – known affectionately to so many as “Mrs. T.” or “Mimi” – had been a client, donor, and friend of New Bolton Center for more than 40 years. Hundreds of her horses were cared for at New Bolton Center and several of her beloved Corgis were treated at Ryan Hospital.

Her devotion to New Bolton Center was extraordinarily deep and long-lived. In 1985, she made the lead gift to establish the Graham French Neonatal Intensive Care Unit, a tribute to her father, whose love of horses was one of his great legacies to her. Dr. Jon Palmer, Chief of New Bolton Center’s Neonatal Intensive Care Service, credited Mrs. Thorington’s insight and generosity with helping develop world-class expertise in this specialty, and ultimately saving thousands of foals over the past 30 years.

In addition to that transformational gift, Mrs. Thorington helped to establish the Charles W. Raker Chair in Equine Surgery. She also supported Dr. Jon Palmer’s neonatology research (a priority of hers), numerous other research endeavors, and student financial aid. In 2010, her generosity helped complete one of the country’s most innovative colic/isolation facilities, the James M. Moran, Jr. Critical Care Center. Mrs. Thorington was undoubtedly one of New Bolton Center’s most generous and thoughtful donors.

Dr. Dean W. Richardson, holder of the Charles W. Raker Chair in Equine Surgery, said of Mrs. Thorington, “Mrs. T. was simply a unique individual. She cared passionately about her horses and all of her animals.” Dean Joan Hendricks remembers Mrs. Thorington as “a remarkable person – strong, funny, loyal, incredibly generous, and very wise in the ways of horses.” She will be greatly missed.

— JANE SIMONE

Anne French Thorington

CLASS NOTES

1960s

Honey Rothberg, V'68, moved to Florida two years ago, after practicing in New Jersey for more than 35 years. She now works two days a week for a low-cost veterinary clinic in Central Florida. She is kept very busy delivering veterinary care to pets whose owners are unable to afford full-service veterinary medicine. Without the help of this clinic, many animals in need would go without care.

1970s

Nancy Brown, V'73, was elected as a Founding Fellow in Surgical Oncology for the American College of Veterinary Surgeons. Dr. Brown, DACVS, DACVIM, is the owner of Pennsylvania Veterinary Specialty and Emergency Associates at Hickory Veterinary Hospital.

Harry Werner, V'74, received the Distinguished Service Award from the American Association of Equine Practitioners in December. The award honors an individual who has provided exemplary service to the AAEP or a similar organization to the benefit of the horse, horse industry, or profession of equine veterinary medicine.

1980s

Deirdre Munisteri Hensen, V'82, is the owner of Paumanok Veterinary Hospital, which was recently honored for its commitment to workforce diversity for individuals with developmental disabilities.

Joel Baines, V'83, was named Associate Dean for Research and Graduate Education at the Cornell University School of Veterinary Medicine.

Mark Cofone, V'85, opened a new physical rehabilitation center in early December at the Veterinary Specialty Center of Delaware. The Center has, among other things, an in-ground pool and underwater treadmill. The Center is run by Dr. Natalie Campbell, CCRP, who is a 1998 Penn grad, along with David Mazzoni, CMT.

Karen (Brake) Collins, V'85, started her own practice exclusively for the holistic care of dogs and cats. The practice is founded in traditional Chinese medicine, focusing on acupuncture and herbal medicine.

Charles Rupprecht, V'85, an internationally recognized expert on rabies, has joined the faculty of Ross University School of Veterinary Medicine as Professor of Epidemiology and Public Health. Dr. Rupprecht is

the former head of the US Centers for Disease Control and Prevention's rabies program and one of the founders of the Global Alliance for Rabies Control. He has spent much of his professional life studying the transmission, evolution, and effects of rabies.

Cathleen Hanlon, V'87, is Chief of the Rabies Team at the Centers for Disease Control and Prevention in Atlanta, GA.

Gary Tabor, V'87, is a recent recipient of one of two Fulbright Professional Scholars Awards in Climate Change and Clean Energy. This special award was established by former Secretary of State Hillary Clinton and Australian Prime Minister Julia Gillard to facilitate collaboration and advancement of climate change science between the two nations. Dr. Tabor will be based at Australia Research Council's Center of Excellence for Environmental Decisions at the University of Queensland and plans to study structured decision making approaches for climate adaptation implementation. He founded and directs the Center for Large Landscape Conservation. The Center's board includes fellow alum, **Rob Kieval, V'87**, founder of CVRx Medical Devices.

1990s

Rodale Institute, a nonprofit dedicated to pioneering organic farming through research and outreach, announced the appointment of **Hubert Karreman, V'95**, as Institute Veterinarian. In his new role, Dr. Karreman will develop an organic livestock program, including animal-oriented educational programming for commercial organic farmers at the Institute's research farm in Kutztown, PA, and at other colleges, universities, and dairy farms throughout the country. Dr. Karreman will also build partnerships with collaborators on pilot studies and pasture projects, and will provide expertise to organic dairy farmers.

John Marcus, V'97, and **Scott Martens, V'97**, are co-founders and owners of Evercare pet crematory established in 2009 and located in Warminster, PA. Evercare is dedicated to the ethical and responsible treatment of pets upon their passing. Owned and operated by practicing veterinarians, Evercare understands the needs of owners facing the loss of a beloved pet and offers an option for burial that respectfully honors every animal in a caring and trustworthy manner. With its state-of-the-art, eco-friendly facility, Evercare provides the utmost quality, transparent aftercare on the market today. For more information, visit www.evercarepets.com.

Ken Bixel, V'99, started Professional Adventures in Continuing Education, LLC, a provider of unique and fun veterinary education opportunities. In 2014, he will return to France to bicycle the Provence region. For more information, visit www.keepupyourpace.com or e-mail info@KeepUpYourPACE.com.

Patrick Mahaney, V'99, and Phil Hammond were married on July 2 at the County of Los Angeles Public Library in West Hollywood, CA. Their Welsh Terrier, Cardiff, served as canine witness to the event. Dr. Mahaney is President of California Pet Acupuncture and Wellness (CPAW), Inc. (www.PatrickMahaney.com) and Mr. Hammond serves as his business administrator. In October, Dr. Mahaney and his client, actress Jane Lynch, participated in the Los Angeles Bark Business Tour, benefitting K9s for Warriors.

2000s

Sean Sawyer, V'00, owner of PawSteps Veterinary Center in Northbridge, MA, recently celebrated the practice's fifth anniversary. The practice has been growing steadily and now employs three veterinarians, including Rebecca Carroll, DVM, spouse of **Vincent Carroll, V'02**.

Sabrina Goscilo, V'05, married Justin Chambers in Lancaster, PA, where they currently own a home. She is an Associate Veterinarian and Medical Director of East York Veterinary Center in York, PA.

Alanna (Toll) Schwartz, V'06, and her husband Jeff (W'89) welcomed their third child, Daniel, on September 8. He joins big sister Hannah and big brother Joshua. The family lives in Manhattan.

Lorelei Wakefield, V'06, has launched Doc Momma maternity lab coats for pregnant vets, doctors, and dentists. The idea came to her after a pregnant colleague had trouble finding a lab coat that fit. The goal is to help women look and feel great at work during maternity. For more information, visit www.docmomma.com.

Erin Trageser, V'09, attained board certification as a Diplomate of the American College of Veterinary Internal Medicine (Cardiology). Dr. Trageser completed her cardiology residency at Atlantic Veterinary College in Prince Edward Island, Canada, under the tutelage of Dr. Etienne Cote. She simultaneously earned a Master's of Science degree for her research in feline hypertrophic cardiomyopathy. Dr. Trageser is currently working at Pittsburgh Veterinary Specialty and Emergency Center.

MAY 2014

alumniweekend

PENN VETERINARY MEDICINE

Join Us for Alumni Weekend
May 16-17, 2014

Come back to campus to reminisce, remember, and relive old memories. Classes ending in a "4" or "9" will celebrate class reunions. Join us for tours of New Bolton Center and Ryan Hospital, Dean's Reception, Jazz Brunch, Quaker Kids, and more. We look forward to welcoming you back!

2010s

Deanna (Pié) Gazzoero, V'10, was married in Philadelphia on September 14, 2013, to Michael Gazzoero.

Maral Avetian, V'12, joined the board of the Chester County SPCA. She is a large-animal veterinarian with First Equine and has a racetrack-based practice.

Nathanael Oster, V'12, joined the board of directors of the Morris Animal Refuge and was appointed as an advisor to the national Veterinary Business Management Association.

Laura Proietto, V'12, obtained a residency in veterinary ophthalmology at the University of Florida after a small-animal rotating medicine and surgery internship at the Animal Medical Center in New York, NY.

Eric Deeble, V'13, was awarded an AAAS/AVMA Congressional Policy Fellowship for 2013-14. He will bring a veterinarian's perspective to the office of Senator Gillibrand (D-NY), where he will be working on agriculture issues and other science-related topics.

RESIDENT & INTERN ALUMNI

Dr. Shelby Reinstein-White, who completed her ophthalmology residency at Penn Vet in July, has passed all parts of the American College of Veterinary Ophthalmologists certification examination, and will be inducted into the college as a Diplomate of the ACVO at the annual meeting this fall.

IN REMEMBRANCE

John Richard "Dick" Berggren, Jr., V'51, age 88, of River Falls, WI, died on October 11 at the Lutheran Home. He served in the US Navy and later served the River Falls area as a veterinarian for over fifty years. Dr. Berggren married Carol Riter in 1953. He enjoyed fishing in Canada with his friends and spent many hours on the golf course.

Arthur Paul Coogan, V'52, age 89, a longtime Wilmington, DE-area veterinarian, passed away peacefully at home, surrounded by his family on October 8. Dr. Coogan was a decorated combat veteran of World War II. He enlisted in the US Army Air Corps at the age

of 19 and was assigned to the 827th Bomb Squadron, which saw action in the European theatre. He earned seven battle stars before his honorable discharge in 1945. Dr. Coogan established Suburban Animal Hospital in Wilmington, DE. For 60 years, he was a dedicated professional serving the communities of Wilmington, where he was beloved and respected.

Bryan "Barney" Sydney Johnson, V'63, of Osprey, FL, formerly of East Brunswick and Toms River, NJ, died on September 26. He opened his first practice, Cranbury Veterinary Hospital in East Brunswick, and his second, Bayview Veterinary Hospital in Toms River, before retiring to Sarasota County. Dr. Johnson also worked part-time at the Palmer Ranch Animal Clinic in Sarasota, FL. He was an honor roll member of the American Veterinary Medical Association.

William R. Morton, V'67, of Seattle, WA, passed away on September 4, as a result of an accidental fall. Before attending veterinary school, he spent two years at the Jackson Laboratory in Bar Harbor, ME, working with Nobel Laureate Dr. George D. Snell. Upon graduating from veterinary school, Dr. Morton first practiced in New Hampshire and then joined the University of Washington Regional Primate Center Field Station outside of Spokane, WA. He then set up his own practice in South Paris, ME, across the street from the family's Paris Manufacturing Co. He moved back to Washington in 1976 and began a 30-year career in primate research at the University of Washington, where he rose to be the Director of the Washington Regional Primate Research Center. Over the course of his career, he traveled worldwide to countries including Russia and Indonesia, and established a national and international reputation in primate research. He retired in 2005 to start his own primate consulting company, ParisNHP.

Dr. Wm. Southard Jones, Jr., V'71, age 69, of New Castle, DE, passed away on June 17. Upon graduation, Dr. Jones joined the US Army as a captain in the veterinary corps. He opened Red Lion Veterinary Hospital in 1978. Today, the hospital continues as a family-run practice, a legacy he passed down to two of his children, Dr. Courtney Manetti and Dr. Luke Jones.

Charles F. 'Chuck' Ruggiero, V'86, of Atco, NJ, died suddenly at the age of 53 on November 25. Dr. Ruggiero graduated from Penn State University and the University of Pennsylvania School of Veterinary Medicine. Along with his wife, Gina, he operated the Waterford Veterinary Associates in Atco for many years.

CONTACT US

Calling all VMDs and former Penn Vet interns and residents! Have you received a promotion, gotten married, had a baby, received an award, discovered a research finding, or opened a new business? Please share your good news with us! Email the alumni office at kmcmul@vet.upenn.edu or write to us at Alumni Relations, Penn Veterinary Alumni Office, 3800 Spruce Street, Suite 172E, Philadelphia, PA 19104.

Dr. Scott Palmer Named First Equine Medical Director for New York Gaming Commission



Dr. Scott Palmer, V'76, was named the first equine medical director for the New York Gaming Commission.

Dr. Palmer, who has been exclusively involved in equine medicine since graduating from Penn Vet in 1976, will oversee all aspects of equine health, safety, and welfare at New York racetracks, including the state's drug-testing laboratory and its regulatory veterinarians. He will also advise the commission on equine medication policies, as well as the safety of racetrack facilities and surfaces.

Dr. Palmer previously served as president of the American Association of Equine Practitioners and the head of a task force that examined a spate of equine deaths at Aqueduct racetrack in 2012. His new position was created as a result of a recommendation in the report he co-authored examining the Aqueduct deaths. In the past decade, several states have created the position of equine medical director as equine safety issues have become more and more critical to the health and the public perception of the racing industry.

As part of the position, Dr. Palmer will also serve as an adjunct professor at Cornell University's College of Veterinary Medicine, and will be required to coordinate research and studies on equine health issues with staff in the college.

For more than 30 years, Dr. Palmer has practiced equine veterinary medicine in New Jersey at the New Jersey Equine Clinic, serving as its hospital director since 1997. He is a two-time recipient of the New Jersey Equine Practitioners Veterinarian of the Year award, as well as a recipient of the Association of American Equine Practitioners (AAEP) President's Award in 2009 and the AAEP Distinguished Service Award in 2010.

Dr. Palmer serves as a board member for the National Thoroughbred Racing Association Safety and Integrity Alliance Advisory Board and the Thoroughbred Charities of America. He previously served on the Association of Racing Commissioners International Special Task Force on Medication and chaired the International Summit on Race Day Medication, as well as the Ad-Hoc Racing Medication and Testing Consortium Committee on Race Day Security. He also served two terms as a member of the Grayson-Jockey Club Research Advisory Committee.

ALUMNI UPDATES

WHY VMD ALUMNI INVOLVEMENT MATTERS – A CASE FOR PARTICIPATION

We at the University of Pennsylvania School of Veterinary Medicine are grateful for the many alumni volunteers who participate in our programs. Volunteers are a vital component of our efforts, and their engagement allows us to expand our outreach to students, fellow alumni, residents, and interns.

Veterinary students want alumni to remain involved in school affairs. They desire a tradition and history that extends beyond four years of veterinary school. Students look forward to having alumni return for annual events to share their experiences. You may be busy, have moved away, or have started a family or a business, but there is always some way to get involved – regardless of your interests, location, or time constraints.

VMDs are part of a special community. No matter when you graduated. No matter where you are in the country or the world. Visit the alumni pages at www.vet.upenn.edu and click on “Get Involved” to find something that interests you. We look forward to your involvement with the alumni community.

PENN VETERINARY LETTER PROJECT

In years past, college students didn't have the luxury of shooting a quick text to mom and dad with an update about life at veterinary school. Instead, they relied heavily on letters. We would like to uncover some of these letters so that future generations will know about those who have gone before them.

Do you have any personal correspondence from your days in veterinary school tucked away in boxes or attics? The alumni office would like to use them to tell a history of the institution. Please send originals or copies to: Alumni Relations Office, Penn Veterinary School of Medicine, 3800 Spruce Street, Philadelphia, PA 19104.

SPEAKERS BUREAU A HIT

The Dean's Alumni Council has worked to create a Speakers Bureau that will provide opportunities for alumni to participate in speaking engagements locally and nationally with schools, civic organizations, and veterinary groups. The Bureau kicked off with a visit to Gladwyne



Students and alumni participated in a Speakers Bureau engagement at Gladwyne Elementary School.

Elementary School just outside of Philadelphia, where two Penn veterinarians and three veterinary students spoke to 125 second graders.

Members of the Speakers Bureau constructed a template for elementary school talks based on the theme “Oh the Places You’ll Go When You’re a Veterinarian.” Students Stacy Bartholomew, Sam Gilbert, and Stephen Cole kicked off the Gladwyne Elementary School visit by talking about the hard work it takes to get into veterinary school. They then discussed their four years as students. Large-animal veterinarian Dr. Nate Harvey followed and was a huge hit when he showed a video of a cow using an automated back scratcher. He also talked about hardware disease and showed some of the many things he has surgically removed from the stomachs of cows. Dr. Harvey was followed by Dr. Susan Emeigh Hart, a pathologist, who explained how she helps veterinarians by looking at animals at the microscopic level. The program concluded with a thought-provoking question-and-answer session.

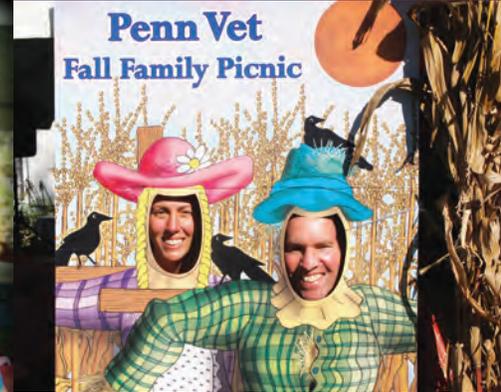
One week later, 125 handmade thank you cards arrived. Little Sasha wanted to know if the veterinarians had ever taken care of a moose. Tyler asked, “Can you come back soon? I had a great time.”

Join the Speakers Bureau today by visiting the alumni pages at www.vet.upenn.edu. Click on “Get Involved” to learn more.



◀ **Fall Family Picnic**

Alumni and their families enjoyed a bright, sunny day at New Bolton Center during the 2013 Penn Veterinary Alumni Fall Family Picnic. The day included delicious food, hayrides, Dairy Barn tours, kid's activities, bingo, face painting, campus tours, and a talk about Penn Vet's horseshoe collection. Thank you to all who attended!



▶ **Parents & Partners Weekend**

The Penn Veterinary Alumni Office hosted Parents & Partners Weekend for the Class of 2017. The two-day event included a Friday Happy Hour followed on Saturday by informational talks, tours of Ryan Hospital, a luncheon with the Dean, and a trip to New Bolton Center for tours.



▲ **AAEP Alumni Reception**

Alumni gathered for a festive reception in Nashville during the American Association of Equine Practitioners Convention.

Penn Vet alumni and donors receive *Bellwether* magazine free of charge.



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APRIL 2014

April 1, 2014

First Tuesdays Lecture Series, a free educational lecture series for horse owners and horse enthusiasts

“WHAT’S YOUR DIAGNOSIS? NEUROLOGIC DISEASE IN THE HORSE”

Presented by Dr. Laura Johnstone

6:30 PM to 7:30 PM

New Bolton Center

382 West Street Road, Kennett Square, PA 19348

April 24, 2014

Wednesday Exchange, a bi-monthly interactive continuing education opportunity for primary care veterinarians

“BEHAVIOR TOOLS FOR GENERAL VETERINARY PRACTICE: HOW UNDERSTANDING DOG BEHAVIOR IMPROVES THE MANAGEMENT OF OUR PATIENTS”

Presented by Dr. Carlo Siracusa

6:00 PM to 8:30 PM

Penn Vet’s Vernon and Shirley Hill Pavilion

380 South University Avenue, Philadelphia, PA 19104

To register, call 877-PENN-VET or email egann@vet.upenn.edu

MAY 2014

May 6, 2014

First Tuesdays Lecture Series, a free educational lecture series for horse owners and horse enthusiasts

“DISCUSSING TENDON INJURIES – DIAGNOSIS, TREATMENT AND FUTURE THERAPIES”

Presented by Dr. Holly Stewart

6:30 PM to 7:30 PM

New Bolton Center

382 West Street Road, Kennett Square, PA 19348

May 15, 2014

Penn Vet Surgical Series, a continuing education event with a focus on a variety of surgical topics

For details, please call 877-PENN-VET or email megann@vet.upenn.edu

May 16-17, 2014

ALUMNI WEEKEND

University of Pennsylvania, Philadelphia Campus and New Bolton Center

We welcome all veterinary alumni to join us for Alumni Weekend! Classes ending in a “4” or “9” will celebrate their class reunion. For details, please contact Kristen McMullen at kcmcul@vet.upenn.edu or 215-898-1481 or visit www.vet.upenn.edu

JUNE 2014

June 18, 2014

Wednesday Exchange, a bi-monthly interactive continuing education opportunity for primary care veterinarians

“TOOLS FOR DECODING PET FOOD LABELS AND MAKING DIET RECOMMENDATIONS THAT MAKE SENSE”

Presented by Dr. Amy Farcas

6:00 PM to 8:30 PM

Penn Vet’s Vernon and Shirley Hill Pavilion

380 South University Avenue, Philadelphia, PA 19104

To register, call 877-PENN-VET or email egann@vet.upenn.edu

JULY 2014

July 28, 2014

ALUMNI RECEPTION AT THE AVMA CONVENTION

6:00 PM to 8:00 PM

The Corner Office Restaurant and Martini Bar
1401 Curtis Street, Denver, CO 80202

For more information on these events, please contact Darleen Calahan, Special Events Coordinator, at coles@vet.upenn.edu or 215-746-2421.