

# bellwether

NUMBER 67 | FALL 2007

THE NEWSMAGAZINE OF THE UNIVERSITY OF PENNSYLVANIA SCHOOL OF VETERINARY MEDICINE

Penn Vet's Expertise  
Sets Research Priorities

doggingcancer



Penn  
Veterinary Medicine

*Many Species. One Medicine.™*

OFFICE OF DEVELOPMENT AND  
ALUMNI RELATIONS

assistant dean of advancement  
KATE JUDGE

director of communication  
GAIL LUCIANI

assistant director of communication  
SUSAN I. FINKELSTEIN

director of annual giving and advancement services  
MARY R. BERGER

director of development for the  
matthew j. ryan veterinary hospital  
ELANA BECK ARONS

director of development for new bolton center  
JANE SIMONE

director of alumni relations  
COREEN HAGGERTY

major gifts officer  
DORI MYERS

development coordinator for new bolton center  
PATRICIA HALL

marketing communication coordinator  
for new bolton center  
JENNIFER RENCH

advancement services coordinator  
JACQUI B. GOOD

assistants  
JOHN DONGES  
ANDREA WITHERS

photographers  
JOHN DONGES  
LISA GODFREY  
PETER HANLEY  
KATHY KRUGER  
SABINA LOUISE PIERCE  
JENNIFER RENCH

writers  
SUSAN I. FINKELSTEIN  
KATE JUDGE  
GAIL LUCIANI  
NANCY WEST


designer  
ANNE MARIE KANE

We'd like to hear your praise, criticisms  
or comments.

Please address your correspondence to:

Gail Luciani, Editor  
University of Pennsylvania  
School of Veterinary Medicine  
3800 Spruce Street  
Philadelphia, PA 19104-6010  
(215) 898-1475  
luciani@vet.upenn.edu

None of these articles is to be reproduced in  
any form without the permission of the editor  
of *Bellwether*.

 Printed on recycled paper

© Copyright 2007 by the Trustees of the University of Pennsylvania. The University of Pennsylvania values diversity and seeks talented students, faculty and staff from diverse backgrounds. The University of Pennsylvania does not discriminate on the basis of race, sex, sexual orientation, gender identity, religion, color, national or ethnic origin, age, disability, or status as a Vietnam Era Veteran or disabled veteran in the administration of educational policies, programs or activities; admissions policies; scholarship and loan awards; athletic, or other University administered programs or employment. Questions or complaints regarding this policy should be directed to: Executive Director, Office of Affirmative Action and Equal Opportunity Programs, Sansom Place East, 3600 Chestnut Street, Suite 228, Philadelphia, PA 19104-6106 or by phone at (215) 898-6993 (Voice) or (215) 898-7803 (TDD).

# contents fall 2007



5



12



20

# bellwether

## features

- 5 DOGGING CANCER
- 12 ROSENTHAL IMAGING AND TREATMENT CENTER
- 20 SHELTER ANIMAL MEDICINE PROGRAM

## departments

- 4 DEAN'S MESSAGE
- 17 FACULTY FOCUS
- 18 RESEARCH BRIEFS
- 22 ALUMNI PROFILE
- 24 CLASS NOTES

## about the cover:

Nine-year-old Kyra, a Rhodesian ridgeback, was diagnosed with canine lymphoma after her owner noticed a large lump on the back of her left leg. After 20 weeks of chemotherapy at the Matthew J. Ryan Veterinary Hospital, the dog's cancer went into remission. Kyra then became the first dog to participate in a clinical trial at Ryan—funded by the Alliance for Cancer Gene Therapy—that is testing a vaccine to sustain the remission. “We can get very valuable information about whether this is a very feasible strategy to vaccinate humans, specifically kids with cancer,” said **Dr. Karin Sorenmo**, one of the trial's principal investigators, and chief of Ryan's Oncology Section.



# Penn Vet World Awards

## Transforming Veterinary Medicine

### **Nominations for the Penn Vet World Leadership in Animal Health Award are being accepted now through December 12, 2007.**

**The World Leadership in Animal Health Award** has been created as a prestigious international tribute to veterinarians whose research and/or other contributions have profoundly influenced the course of animal and/or human health. The annual award, a medal and cash prize of US \$100,000, is intended to heighten public awareness of veterinary medicine's essential contributions to the health and well-being of all types of animals, the environment, and society as a whole.

The World Leadership in Animal Health Award will be presented to a veterinarian who has dramatically changed the practice and image of the profession and substantially influenced the lives and careers of others. Nominations are being accepted now through December 12, 2007 at [www.vet.upenn.edu/worldaward/nominationguidelines.pdf](http://www.vet.upenn.edu/worldaward/nominationguidelines.pdf)

### **Applications for Penn Vet Student Inspiration Awards Due January 15, 2008.**

**The Penn Vet Student Inspiration Awards** of \$100,000 will be presented to two currently enrolled Penn Vet students who demonstrate the potential to significantly advance the frontiers of veterinary medicine. Applications are now available on-line at [www.vet.upenn.edu/worldaward/studentawards.html](http://www.vet.upenn.edu/worldaward/studentawards.html).

The awards committee is chaired by Dr. Alan M. Kelly, Dean Emeritus of the School.

The awards program has been established with a major gift from the Vernon and Shirley Hill Foundation.

"Nothing like it currently exists in the world, and we are honored to be the first school of veterinary medicine to make such an enduring statement in support of our profession and our students."

- Dr. Joan C. Hendricks,  
The Gilbert S. Kahn  
Dean of Veterinary  
Medicine

## dean's message

Science has changed the way we live. It is also the basis of medical advances for all animals, humans and non-humans alike. Here at Penn Vet, we continually strive to make a real difference in animal health. We make discoveries in our basic, clinical and translational research programs that lead to new disease prevention and treatment methods. Often, these approaches lead to improvements for the humans who own animals—either because of the benefits of the human-animal bond or because better health increases a farm animal's productivity. And because the fundamental causes of disease are the same for humans and other animals, advances in one area, such as oncology, have the potential to benefit the health of many species.

We know from the completion of many genome projects that all animals share the vast majority of genes. Thus, approaches to understanding disease and treatment that are based on shared genes, such as stem cells, gene therapy and medical genetics, are also very likely to have a ripple effect, ultimately benefiting all animals.

At Penn Vet, our mission is to advance the field of veterinary medicine, and by extension, all science. We will do so by building on the strengths and expertise that we have developed in basic, clinical and translational research throughout our history. We have an added advantage in being part of the University of Pennsylvania. By partnering with other Penn schools and centers, we have an opportunity to geometrically increase scientific knowledge while decreasing the time it takes for discoveries to impact both human and animal medicine.

We see our four core areas of focus as infectious disease, neuroscience, genes and development, and comparative oncology. We chose these thematic areas for many reasons, including our renowned parasite immunology group, our successes in treating inherited blindness and neurological disease in dogs and cats, respectively, using gene therapy, our remarkable programs in clinical and basic neuroscience, and our emerging translational work in comparative oncology.

Our VMD-PhD program, new masters' degrees in translational research and public health, as well as increased student participation in lab and clinical research will help prepare a new generation of better-trained scientists for diverse career paths in a variety of areas.



Photo by Sabina Louise Pierce.

“ In research that impacts humans and non-humans alike, Penn Vet is leading the way toward eminence in veterinary scientific investigation. ”

In research that impacts humans and non-humans alike, Penn Vet is leading the way toward eminence in veterinary scientific investigation. I encourage you to join us on this exciting journey, whether you are an alumnus, a client or a friend—together, we can make a difference for the future of science.

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





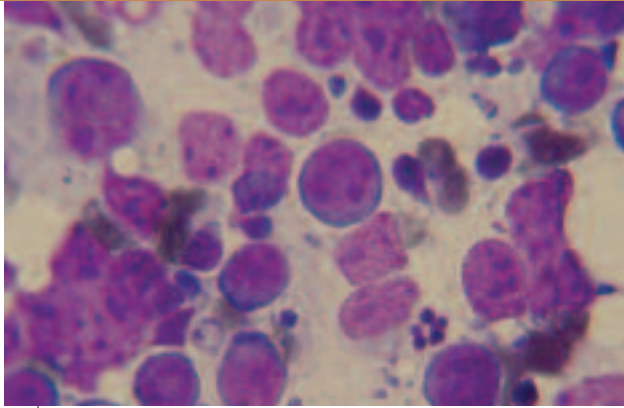
# dogging cancer

Penn Vet's Expertise Sets  
Research Priorities

BY SUSAN I. FINKELSTEIN

“Finding a cure for cancer” and “putting a man on the moon” are phrases that convey achievement of seemingly impossible tasks: if we can put a man on the moon, then, well, we should be able to do just about anything. We got to the moon in 1969, but still are searching for the cure (more likely, cures) for cancer—a landmark in human progress that will change the world even more than did Apollo 11. But research underway at Penn Vet and elsewhere indicates we need not probe the cosmos for this particular milestone—in fact, we may not have to look any farther than our own feet in an easy chair or at the end of the bed. Dogs and cats with cancer may lead to a cure in people, and a branch of medicine called comparative oncology may be the vehicle to get there.

Of the approximately 65 million dogs and 32 million cats in the United States, the National Cancer Institute estimates that each year roughly six million dogs and about the same number of cats will be diagnosed with cancers that share many features with human malignancies—including osteosarcoma, prostate and breast cancers, non-Hodgkin's lymphoma, melanoma, soft-tissue sarcoma and



Cytology from a needle aspiration biopsy of a lymph node of a dog with lymphoma. The predominant cells are lymphoblasts. Slide was stained with a modified Wright's stain. / Joel Mills, DVM.

head and neck carcinoma. The sheer numbers of these cases and the many biological similarities between people and dogs make the latter especially ideal models for studying comparable human cancers.

Also, because animals age more quickly than people and have shorter lifespans, data from studies of new therapy methods and drugs are obtained more quickly when working with animals—knowledge that can be applied that much sooner to human treatments. And one hand (or paw) washes the other when results of large-scale research efforts for humans can also be administered to animals. Veterinary and medical oncologists, the pharmaceutical industry and academic research centers are all studying comparative oncology, the study of naturally occurring cancers in animals as models for human disease. Many areas of research offer promise: anti-cancer vaccines, bio-engineering for new delivery systems, early detection.

### Clinical Trials: A Critical Component

The University of Pennsylvania School of Veterinary Medicine is uniquely positioned to be a pioneer in comparative oncology. As one of the only vet schools closely integrated with a medical school, collaboration among researchers and clinicians from diverse backgrounds and interests is stronger than at other universities.

Clinical trials involving animals with spontaneous disease are perhaps the most important component of comparative oncology studies. Although considered “experimental,” treatments used in clinical trials have been previously evaluated in laboratory animals, and their safety has been demonstrated in normal dogs and cats. The hope is that these new approaches will significantly benefit the patients receiving them or produce new knowledge for others with the same condition. In fact, many effective treatments are available today because of lab research and patient participation in clinical trials.

### “Another Perspective”

Funded by the Alliance for Cancer Gene Therapy, an ongoing clinical trial that marks a joint effort of Penn Vet, Abramson Family Cancer Research Institute and Children’s Hospital of Philadelphia involves dogs with lymphoma, an aggressive disease of malignant lymph glands and/or cells. Because canine lymphoma is a systemic disease—comparable to non-Hodgkin’s lymphoma in people—chemotherapy usually is the recommended course of treatment. Seventy to 80 percent of dogs respond to chemotherapy at first, but the majority relapses, and the new tumors eventually become resistant to treatment. On average, survival time is one year.

The trial’s principal investigators are **Dr. Karin Sorenmo**, chief of the Ryan Veterinary Hospital’s Oncology Section and associate professor of oncology; **Dr. Nicola Mason**, assistant professor of immunology, and Pamela Cole Chair in Companion Animal Medicine at Penn Vet; and the Abramson Institute’s Dr. Robert Vonderheide, assistant professor of medicine. Its purpose is to assess the potential benefits and side effects of a novel type of immunotherapy (a cancer vaccine) used after remission is achieved with standard chemotherapy. The vaccine is designed to stimulate the immune system to recognize and attack the cancer anywhere in the body, preventing relapse of the original malignancy. With this, researchers hope to prolong the time during which the



Oncology staff prepare to administer chemotherapy treatment to Kyra.

patient is disease-free, increase the percentage of long-term lymphoma survivors and facilitate further development of this vaccine strategy in children patients.

“It brings another perspective to the practice of oncology,” said Dr. Sorenmo, referring not just this study, but to veterinary clinical trials generally, “and it’s exciting to be part of something that reaches beyond treating dogs and cats, even though I think that is worthy in and of itself. We are not merely a means for researchers to figure out how to treat humans with cancer, but treatment of animals themselves is worthy as well.”

Ryan’s Oncology Section is also a member of the National Cancer Institute’s Comparative Oncology Trial Consortium (COTC), a new-drug development consortium based on collaborative relationships with accredited schools of veterinary medicine throughout the country. As part of the COTC, Penn Vet was involved in another, recently closed trial for dogs with various non-operative malignant tumors that were treated with “tumor necrosis factor” (TNF), a cytokine naturally produced in response to infection, inflammatory conditions and tumors.

“The purpose of this trial in to see if it’s still safe when we give it multiple times, but also to determine if it results in shrinkage of the tumor,” Dr. Sorenmo explained. “I think that the decision to take this to human clinical trials will be very much dependent on the results of this dog trial.”

### Other Trials

Down another third-floor corridor of the Ryan Veterinary Hospital, faculty from various sections and services (principal investigators: **Dr. Deanna Worley**, surgery resident, and **Dr. John Lewis, V’97**, assistant professor of dentistry and oral surgery; co-investigators: **Dr. Alexander Reiter**, assistant professor in dentistry and oral surgery; **Dr. David Holt**, section chief and professor of surgery; **Dr. Stanley Blazejewski, V’80**, dentistry and oral surgery resident; **Dr. Dorothy Cimino Brown**, assistant professor of surgery; **Dr. Carrie Tupper, V’03**, oncology resident; **Dr. Tiffany Scanlon, V’01**, pathobiology lecturer; and **Dr. Tom Van Winkle**, professor of veterinary pathology and chief of the Small Animal Necropsy Service) are involved in a clinical trial using procedures commonly performed in human oncology to evaluate lymph-node drainage patterns in dogs with oral malignant melanoma, the most common malignant oral tumor in dogs (funded by the Barry and Savannah French-Poodle Memorial Fund and by Penn’s Veterinary Clinical Investigations Center). Doctors combine surgical removal of regional lymph nodes with injection of a dye to identify the sentinel lymph node, which is the first node or nodes receiving drainage from a tumor.

To perform a sentinel lymph node biopsy, surgeons first inject blue dye near the tumor several minutes before the

actual biopsy. Then, during the biopsy, surgeons inspect the lymph nodes for staining. One or several nodes may take the dye, and these are designated the sentinel lymph nodes, which are then removed. Surgical excision of the primary site of oral malignant melanoma occurs after removal of the nodes. This method has been used in human medicine to better determine drainage patterns and extent of disease.

Another clinical trial involves staff from several Ryan departments collaborating with the Lankenau Institute for



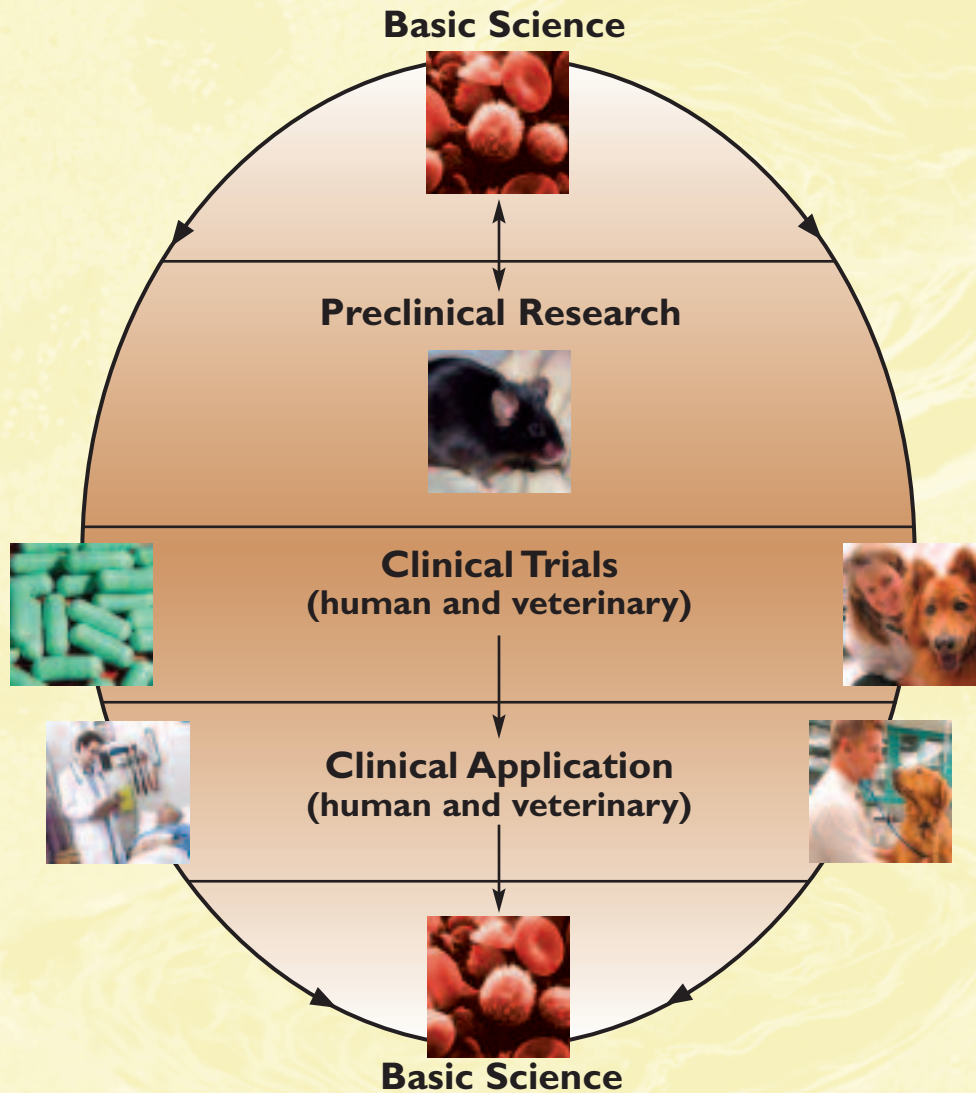
From left to right: back row: Dr. Karin Sorenmo, Dr. Robert Vonderheide and Angharad Waite; middle row: Roxanne Bachman, CVT, Dr. Nicola Mason and Dr. Beth Overley; front, kneeling: Michael Wexler and Amy LaBlanc, CVT; dog: Kyra Eisenhower.

Medical Research (principal investigator: **Dr. Lewis**; co-investigators: **Dr. Reiter**; **Dr. Sorenmo**; **Dr. Erica Krick, V’02**, oncology lecturer; **Dr. Tiffany Scanlon, V’01**, pathobiology lecturer; and **Dr. Fran Shofer**, epidemiologist statistician). This time, the team is studying the use of a new chemotherapy drug in cats with inoperable oral squamous cell carcinoma (SCC) (squamous cells are in the skin’s outer layer and cover some mucosal surfaces).

Every week, the Ryan Veterinary Hospital sees cases of feline SCC, the most common oral cancer affecting cats, accounting for up to 80 percent of all feline oral tumors. An aggressive malignancy, it is uniformly fatal as the tumor invades local structures of the mouth, causing pain, lack of appetite and weight loss. Conventional treatment



# The Cycle of Translational Medicine



**Basic Science.** Basic cancer research focuses on increasing understanding of mechanisms that control cell reproduction, for example, studying normal and diseased blood cells. This scanning electron microscope image from the National Cancer Institute shows normal circulating human blood.

**Preclinical Research.** During preclinical drug development, scientists evaluate the toxic and pharmacologic effects of the drug or treatment through in vitro and in vivo laboratory animal testing.

**Veterinary Clinical Trials.** Veterinary clinical trials involving pets with spontaneous disease often are part of developing new medications, procedures or therapies.

**Human Clinical Trials.** Often conducted in four phases, clinical trials involving people are conducted with volunteer patients, usually to evaluate a new treatment, under strictly controlled conditions. Each trial is designed to answer scientific questions and to find better ways to treat individuals with specific diseases.

**Veterinary Application.** Successful outcomes from clinical trials are made available to veterinarians for treating pets, and therapies from human medicine can be applied to veterinary medicine.

**Human Application.** Successful outcomes from clinical trials are made available to physicians for treating people, and therapies from veterinary medicine can be applied to human medicine.



(surgery, radiation and chemotherapy) have been of limited benefit to most cats with large SCC tumors.

Recent research in mice, however, has proved highly promising. Administering an enzyme-inhibiting substance called 2-DiFluoroMethylOrnithine (DFMO) to SCC-bearing mice produced very positive results, and even apparent cures in a high percentage of them. Although DFMO has not yet been used in cats, safety, toxicity profiles and drug dosages higher than those in the current study have been well documented in other species. Penn Vet clinicians are using gradually increasing doses of DFMO to determine if the drug is well tolerated and effective in cats (three cats are treated at an assigned dose rate, and the next three cats are treated at a higher dose if the previous dosage was well tolerated).

### **Basic Research: The Foundation of Discovery**

Before clinical oncology trials can even be considered, however, scientists often spend years performing basic, or “bench,” research in the laboratory, studying communication between and workings of cells, and how their functions are affected by different conditions and drugs. Clinical trials—often divided into several phases themselves—follow lengthy preclinical research in which new drugs may be tested on laboratory animals to indicate the maximum doses, toxicities and anti-cancer potential. It is basic research, however, that provides the broad base of knowledge that has and will continue to make breakthroughs possible. X-rays, penicillin, the polio vaccine and genetic engineering are just a few of the numerous examples of celebrated medical advances that evolved from preliminary basic research.

Because cancer is a disease of the cell, basic cancer research has focused on increasing understanding of mechanisms that control cell reproduction. But cancer research also involves larger and smaller processes than the cell. To learn how tumors grow and spread, researchers must know how cells interact—and to identify and classify anti-cancer drugs, they need a thorough knowledge of fundamental chemistry and the newest approaches to designing and combining drugs. In oncology, basic research has focused on expanding knowledge of the molecular biology of both normal and malignant cellular growth and regulation. Given the complexity of cancer, successfully combating it requires interaction among scientists investigating cancer at all levels.

Some of the basic comparative oncology research currently underway at Penn Vet includes ways to target blood vessels that feed tumor cells, proteins that regulate the ability of cells to move, and the signaling of cells in inflammation and cancer. [See [www.vet.upenn.edu/bellwether](http://www.vet.upenn.edu/bellwether) for details.]

### **Banking on a Cure**

At the intersection of basic and clinical research is the School’s new Tumor Tissue Bank (TTB), housing tissue specimens from clinical trial participants and other patients from the Ryan Veterinary Hospital. The TTB will serve basic scientists in a wide range of research applications—from genomics and proteomics to creating vaccines for cancers—and will act as a repository of canine and feline primary tumor tissue and related biofluids, like serum and plasma. It will be linked to a searchable database that will form the basis of a university core facility aimed at providing resources for basic and translational comparative oncology research.

“We already have a number of samples and have developed stable cell lines of low passage number from them,” said Dr. Mason, who will direct the TTB with **Dr. Sam Long**, assistant professor of neurology and neurosurgery.

Historically, lack of access to tumor tissue has been a bottleneck for cancer research. Penn Vet’s TTB will provide a comprehensive collection of cancer specimens with related clinical information that will enable researchers to address unanswered questions concerning the prognosis and treatment of cancer. As a multi-user resource, the TTB will be available to a wide range of cancer researchers at Penn and elsewhere.

“Researchers at Penn’s veterinary and medical schools are already using some of the developed lines to investigate roles of certain signaling pathways in tumor development and to assess levels of expression of tumor antigens that may be targeted using novel immunotherapeutic approaches,” stated Dr. Mason. “Work with these samples will lead to a greater understanding of cancer biology and allow great strides to be made in the field of translational cancer research.”

### **New Knowledge**

*“The growth of our science and education will be enriched by new knowledge of our universe and environment, by new techniques of learning and mapping and observation, by new tools and computers for industry, medicine, the home as well as the school.”*

So said President John Kennedy in a 1962 speech on the nation’s commitment to explore space—and so could be said of modern science’s charge to reduce cancer’s deadly toll. During the next decade, Penn Vet’s brightest researchers may help uncover “new knowledge” that will allow doctors to detect and block many cancers at the earliest stages. It may very well be that our pets will be cancer-free before we are, through basic studies and clinical trials—yet one more contribution animals would make to the quality of our lives. 🐾

# Eminence in Veterinary Medicine: Core Penn Vet Research Priorities

In addition to comparative oncology, Penn Vet has identified three other core areas of research focus: infectious disease, neuroscience, and genes and development. We chose these areas because they will allow us to build on the strengths and expertise that we have developed in basic, clinical and translational research.

## **Infectious Disease**

Zoonotic infectious diseases, those that can be transmitted between animals and people, are of growing concern. Penn Vet has the expertise and leadership in research in pathogen biology, immunology and epidemiology to advance important discoveries in this critical arena. The School is committed to addressing this issue through a recently implemented tripartite plan that brings together strategic recruitments of faculty with backgrounds in relevant areas, seed funding for infectious disease research projects, and new training initiatives to meet the urgent need for more veterinarians with expertise in infectious disease research.

By promoting the integration of clinical and basic research with front-line diagnostic surveillance for zoonotic diseases, Penn Vet will play a significant role not only in the control of current disease outbreaks, but will be able to develop new strategies for combating those emerging infectious diseases that have the potential to adversely impact both animal and public health.

## **Neuroscience**

Advancing the understanding of the brain and the nervous system is arguably the most important area of study in human and animal medicine. Over the last three decades, veterinary and human medicine researchers have made dramatic steps in this field by bringing together scientists of diverse backgrounds, facilitating the integration of research directed at all levels of biological organization, and encouraging translational research and the application of new scientific knowledge to develop improved disease diagnoses, treatments and cures.

Both faculty expertise and a unique research environment exist at the Matthew J. Ryan Veterinary Hospital. With patient visits of more than 31,000 per year, there are many opportunities to study spontaneous illness and disease. What makes neuroscience unique at Penn Vet is the potential for clinicians and bench researchers to collaborate, thus making a real-world difference in the lives of critically ill animals and people. With areas of expertise that include sleep, obesity, stress and neurodegenerative disorders, collaborative studies focusing on both basic and translational research can make a groundbreaking impact on animal and human health.

## **Genes and Development (Stem Cells, Germ Cells and Medical Genetics)**

Medical science is poised to make tremendous advances in the near future, thanks to recent discoveries in genetics and stem cell biology. While these therapies hold great promise for providing breakthroughs in human medicine, they require much more research before they reach the clinic. Novel stem cell-based therapies and gene therapy can be applied to animal patients long before they can be used in human patients, and in the case of stem cell therapy without the ethical debate surrounding the use of human stem cells. An advantage of Penn Vet is access to animal models of naturally occurring diseases that are targets for stem cell and gene therapies. If stem cell therapy can heal wounds and fractures, as well as naturally occurring diseases in animals, the same might eventually be true for humans.

Penn Vet's historical leadership in the field of stem cell and germ cell biology is spearheaded by the pioneering work of Dr. Ralph Brinster; recent work that pluripotent stem cells can differentiate into germ cells and that pluripotent stem cells can be derived from germ line stem cells highlights the synergy between the two research areas. Penn Vet maintains leadership in male germ line stem cell biology and in gene therapy both in basic science and its application to animal models.



# Second Annual Animal Art Adventure Camp

**F**or the second year, the School's Center for the Interaction of Animals and Society collaborated with the University City Arts League (UCAL, [www.ucartsleague.org](http://www.ucartsleague.org)) to present the Animal Adventure Camp. For two weeks, beginning July 9, the camp hosted 32 children aged six to 11. The campers learned about different animal-related topics and interacted with many different species. Guest speakers and walking trips complemented animal-centric arts and crafts projects

taught by UCAL faculty. Support for this program, provided by the ASPCA, Banfield Charitable Trust and the University of the Sciences in Philadelphia, enabled 16 needs-based full and partial scholarships to be granted to local children from low-income families, and supplied partial support for the program's overall operating expenses. More pictures and details are available at [www.vet.upenn.edu/newsandevents/events/2007/artadventurecamp2007.htm](http://www.vet.upenn.edu/newsandevents/events/2007/artadventurecamp2007.htm). 🐾



◀ This corn snake was one of more than a dozen reptile species, all former pets surrendered to Forgotten Friend Reptile Sanctuary, which helped campers learn how to properly care for these frequently misunderstood animals.

▶ Razzle, an extroverted cockatoo, traveled to the camp with representatives of the Bailey Foundation, a local exotic bird rescue. Macaws, conures and other cockatoos also attended, and campers found out about life with these sensitive and intelligent birds.



Photos by John Donges, Kathy Kruger and Peter Hanley

▼ Throughout the camp, the children created art in many different media, and a formal art opening at the UCAL displayed their work to the public.



▼ The camp culminated in a half-day program at the Matthew J. Ryan Veterinary Hospital, where Penn Vet staff described the variety of fascinating work opportunities that exist in the field of veterinary medicine.



▲ The equine ambassador of **Dr. Lesley King**, professor of critical care, helps teach campers about the rewards and responsibilities of caring for horses and ponies.

▶ **Dr. Cindy Otto**, associate professor of critical care, coordinated an outdoor demonstration of canine athletics and search-and-rescue dogs, which included presentations by **Dr. Anne Traas**, clinical trial veterinarian, and **Dana Durso**, clinical trial nurse and coordinator, as well as members of the Philadelphia Barking Authority flyball team. Experts explained the extensive training needed to create a canine athlete or a working dog, and how positive reinforcement enhances the working relationship between dogs and handlers.





# ROSENTHAL IMAGING AND TREATMENT CENTER



Photos by John Donges

Dean Joan Hendricks (left) joined Jerry Rosenthal, his wife Cionna and their daughters Jocelyn and Cionna as they cut the ribbon that officially opened the RITC. Leadership gifts from the Bernice Barbour Foundation, John and Margrit McCrane, the Samuel P. Mandell Foundation, Gerald Shreiber, the Kennel Club of Philadelphia, Carson International and friends of MacKinzie Lynch — and support from Penn's School of Medicine — helped fund the Center.

## *Rosenthal Imaging and Treatment Center Now Open*

**T**he Matthew J. Ryan Veterinary Hospital has officially opened Pennsylvania's only oncology and imaging facility devoted entirely to veterinary medicine—one of only a handful in the world.

The Rosenthal Imaging and Treatment Center (RITC) is a new high-tech, 9,200 sq. ft. facility housing magnetic resonance imaging (MRI) equipment for diagnostics and a linear accelerator for radiation treatment.

Our first official patient for the new MRI was Beny, a 10-year-old German shepherd from the K-9 Unit of the West Whiteland Township Police Department, in Pennsylvania.




Left, Beny about to start the imaging process. Below, Officer Herkner with Beny during recovery.

His handler/partner, Officer Matt Herkner, had noticed that one of Beny's legs was knuckling under; MRIs of his cervical spine area, and his lower thorax suggested that a cyst was compressing the left side of the spinal cord; there was also evidence of degenerative disks and arthritis of the cervical spine.

Beny's scan was taken by a GE 1.5 Tesla MRI scanner. This system allows superb imaging of internal structures and provides soft tissue detail not available with conventional X-rays or CT scans. Operated by a certified MRI radiology technologist, images are interpreted by board-certified radiologists and other specialists.

In addition to the MRI, the RITC offers radiation therapy. Sir Mix-A-Lot, a 32-year-old male yellow anaconda from the Brandywine Zoo in Wilmington, DE, has a life-threatening carcinoma. While much of the tumor was removed surgically, radiation therapy is a necessary next step in an effort to save his life—and so, he became the RITC's first radiation therapy patient. Unlike most mammals, reptiles suffer few side effects from radiation therapy due to their physiology; Sir Mix-A-Lot recently completed his treatment with the Siemens 6 MV linear accelerator and his tumor has decreased dramatically in size. The equipment produces high-energy photons and a range of electron beams that affect both the normal cells and cancer cells that are within the beam's path; however, the radiation treatment is designed to produce the maximum effect on the tumor and minimize the effect on normal tissue.

The RITC is equipped to handle a caseload of up to 15 to 20 patients a day. For more information, please visit [www.vet.upenn.edu/RITC/](http://www.vet.upenn.edu/RITC/). 



Sir Mix-A-Lot, a yellow anaconda from the Brandywine Zoo, is prepared for radiation treatment.



# A Tale of Two Men—and One Woman, Eight Children, Countless Students and a Farm Full of Animals

BY KATE JUDGE

Donald Cross had always wanted to be a veterinarian, but it wasn't to be; after World War II his father needed his help in the family plumbing business. Still, his life would be full of animal and human care-giving—and his name, along with that of his wife, Lois, always will be linked with becoming a veterinarian. In 2001, after Donald's death, Lois decided to endow a scholarship in his memory at Penn Vet. Don's veterinary aspirations, combined with gratitude for the care provided to their animals through Penn Vet's New Bolton Center, inspired Lois to make the gift. "It was something I had been thinking about for a long time—his desire to be a vet and his love of horses," Lois said. "But even the children did not know he had wished to be a veterinarian."

Donald was not the type of person to focus on what he did not have in life. He and Lois made a life on a farm in Pennsylvania's Delaware County and were busy raising eight children and horses, pigs, chickens and border collies. While Donald ran the family business, Lois managed the farm. Everyone helped care for the animals, from participating in 4-H to raising horses, including Rippling Charger, a 1976 winner of Best in Breed.


When any animals were sick or needed routine medical care, the Crosses relied on Penn Vet's field service. Lois describes her decision to create the Donald Cross Scholarship in 2001 and the Donald and Lois Cross Scholarship in 2006 as a tale of two men. First was Donald. The second was the field service's **Dr. Richard Bartholomew**, emeritus associate professor of medicine.

During Dr. Bartholomew's almost three decades in the field service, he treated thousands of animals and taught countless students, including his son, Richard, and daughter-in-law, Amy, who graduated from Penn Vet in 1994 and 1993, respectively. Lois describes his visits with the students, "We'd have the animals all lined up for him when he and the students came. He was a teacher with high expectations. After the taking care of the animals, I'd have everyone back for lunch."

"Large animal practice is very personal. Clients become a part of your family," said Dr. Bartholomew. Now retired and living in Vermont, he remembers with affection the family feeling always present during his visits to the Crosses' farm, where students, the Cross children, veterinarian and client would visit together, learn and share a meal. "The Crosses were a wonderful family to work with—always willing to let the students see and experience what they needed while we cared for their animals," he recalled.

Every client whose animal is treated at Penn Vet—whether through field service, the George D. Widener Hospital for Large Animals or the Matthew J. Ryan Veterinary Hospital—plays an important role in helping educate tomorrow's veterinarians, an integral part of Penn's mission.

Financial assistance for veterinary students is a core priority of the School of Veterinary Medicine. Penn Vet students graduate with an average debt of \$120,000. This financial burden has had a negative impact on graduates' ability to pursue less lucrative fields such as public health and large animal medicine.

There are several ways to support Penn Vet students. Contributions of any size may be made to the Veterinary Student Scholarship Fund; donors can sponsor an Opportunity Scholarship, which offers financial aid and mentoring from the donor or selected faculty member; or a new scholarship can be endowed to permanently ensure financial assistance to future veterinarians. For more information on supporting Penn Vet students, visit our Web site at [www.vet.upenn.edu/giving/giving\\_teaching.html](http://www.vet.upenn.edu/giving/giving_teaching.html). 



Lois and Donald Cross



## Penn Vet's Fight Against Laminitis

Laminitis has existed since Roman times, yet it is still poorly understood and extremely difficult to prevent. Because it is extraordinarily painful, it often has a fatal outcome, as we saw in 2006 Kentucky Derby—winner Barbaro's case.


At New Bolton Center, efforts are being focused in three areas where Penn Vet can make a real difference in the fight against laminitis. First, we are carefully studying each patient we treat, and comparing the effectiveness of treatments. Second, we are teaching nurses and veterinarians to improve the healthcare system available to owners. Finally, we are seeking a cure for laminitis through basic laboratory research.

The process for conducting this research is being put into place. The Dean W. Richardson Endowed Chair, made possible through a generous gift from Mr. and Mrs. Roy Jackson, Barbaro's owners, is for a senior faculty member who will lead sophisticated investigations into the basic cell/molecular biology behind laminitis development. This scientist will be charged with identifying the molecular pathway critical to the condition, as well as where along that pathway we could intervene with new treatment modalities. These interventions could prevent laminitis from starting—or stop it before it does irre-

versible damage. A central focus of this research will be in stem cell biology. This is highly specialized work, and before it can begin, we must learn more about laminitis at very fundamental levels.


The first step in building the blocks of knowledge needed for this effort is the work led by **Dr. Hannah Galantino-Homer, V'93**. She is responsible for creating a laboratory model of laminitis, which will allow our researchers to move faster, make vital progress and set the stage for testing theories of causes and new treatments in the lab before taking them to the patient.

In addition to the growing Laminitis Research Fund and the Jacksons' generous pledge for the Richardson Chair, we already have received an additional million-dollar pledge to build infrastructure for laminitis research. Our goal is to fund a Laminitis Institute, and an international advisory committee.

Finally, this year Penn Vet will host the Fourth International Equine Conference on Laminitis and Diseases of the Foot, generously sponsored by the Spot Castle Fund and directed by **Dr. James Orsini**, associate professor of surgery. For more information, please see [www.laminitisconference.com](http://www.laminitisconference.com). 

### Barbaro Fund Allocation

Gifts made to the Barbaro Fund have improved equipment and services in the George D. Widener Hospital for Large Animals at New Bolton Center, helping all our patients in their times of need. Some uses of the Barbaro Fund this past year include:


1. **An improved surgery table in the general surgical suite**, replacing the original table installed in 1963. The general surgical suite is used by all species admitted to the Hospital.
2. **A new surgical light system for the general surgical suite.**
3. **A new raft for the C. Mahlon Kline pool recovery area**, assuring successful anesthetic recovery for orthopaedic patients.
4. **A new digital cool freezer in the Georgia and Philip Hofmann Center for Reproduction**, used for long-term preservation of valuable genetic materials of all species, including semen and embryos.
5. For the Hospital's clinical lab, **a new imaging system and a Midas III Stainer** for evaluating cytological specimens.
6. **The purchase of a Parker Vacuum**, which maintains cleanliness of wards and treatment areas in the Hofmann Center. 

### New initiative fights laminitis

**Hannah Galantino-Homer, V'93**, has been appointed senior research investigator of the newly created laminitis research initiative at Penn Vet, serving as a leading investigator in Penn Vet's laminitis research efforts.

Prior to her new appointment, Dr. Galantino-Homer was a lecturer and researcher in the Center for Animal Transgenesis and Germ Cell Research, located at Penn Vet's New Bolton Center, and she remains a diplomate of American College of Theriogenologists.

The new initiative will enhance equine disease research currently being done at Penn Vet, which is funded in part by donors to the Laminitis Research Fund. Laminitis, a debilitating and painful condition of the hoof, is a silent killer that affects horses around the globe. Both the American Association of Equine Practitioners and the United States Department of Agriculture list laminitis as the priority area for equine research and funding.

For more information on the Barbaro and Laminitis Research funds, please visit [www.vet.upenn.edu/barbaro](http://www.vet.upenn.edu/barbaro). 



## *Althouse named Chair of the Department of Clinical Studies—New Bolton Center*



**Dr. Gary Althouse** was recently named chair of the Department of Clinical Studies—New Bolton Center. As the chief academic officer of the department, Dr. Althouse will be responsible for providing leadership in enhancing the department's role within the School and University.

Dr. Althouse is also a professor of reproduction and swine herd health, and was previously the head of the Section of Reproductive Studies and the endowed Georgia and Philip Hofmann Research Center for Animal Reproduction at New Bolton Center.

Dr. Althouse's research interests include male reproduction in veterinary and human medicine, and he remains involved in translational research that has expanded the application of several assisted reproduction technologies in many species.

## *Hunter named Chair of the Department of Pathobiology*



**Dr. Christopher Hunter** has been named chair of the Department of Pathobiology. Dr. Hunter will be responsible for integrating the core activities of the department and developing new and promising areas of research, service and teaching. The department has a strong focus on basic research in cancer and infectious disease and provides vital

diagnostic laboratory services for patients at both the Matthew J. Ryan Veterinary Hospital in Philadelphia and the George D. Widener Hospital for Large Animals at New Bolton Center, and it offers the largest veterinary biopsy service at an academic institution. Pathobiology faculty head the School's initiative in the Pennsylvania Animal Diagnostic Laboratory System.

In addition to his new position, Dr. Hunter is a professor of parasitology at Penn Vet. He is active in the advancement of graduate education at Penn, is on the editorial boards of several journals and has served on numerous scientific review committees, including the National

Institutes of Health, and the Howard Hughes and the Gates foundations.

Dr. Hunter's research interests include understanding how the immune system controls infections and how this information can be used to design better ways to manage inflammation.

## *Harrigan named Chief Financial Officer*



**Maureen Harrigan** has been named as the School's chief financial officer. Ms. Harrigan was formerly the director of resource planning in the University's Office of Budget and Management Analysis, where she was responsible for the financial analysis of the University in general and of its specific Schools/Centers. Prior to Penn, she held various management and professional positions within the Hewlett-Packard Company and Agilent Technologies for 20 years.

Ms. Harrigan earned an M.B.A. degree from Harvard University. She is a school director in the Kennett Consolidated School District and serves as chair of the school board's finance committee.

## *Changes in Ryan Veterinary Hospital's Orthopaedic Section*



**Dr. Gail L. Smith, V'74**, professor of orthopaedic surgery, recently completed a sabbatical at the National Institutes of Health in the laboratory of Dr. Elaine Ostrander, and has returned to the Orthopaedic Service at the Matthew J. Ryan Veterinary Hospital. Dr. Smith will continue to direct PennHIP®, fast becoming the world standard for hip dysplasia screening, as well as develop programs that will include total joint replacement for hip, knee and elbow; pain management; physical therapy and rehabilitation medicine, and predictive medicine.

Other orthopaedic staff members are **Drs. Rob Gilley**, assistant professor of surgery; **Carolyn Garzotto, V'96**, consultant; and **Kim Agnello**, as well as numerous residents and interns. **Dr. David Diefenderfer, V'81**, has retired from Penn Vet and is now in private practice. ♡



## Gerhard A. Schad

**Name:** Gerhard A. Schad

**Birthplace:** Brooklyn, New York

**Marital status:** Married, two children, five stepchildren

**Positions:** professor of parasitology, Department of Pathobiology, School of Veterinary Medicine; professor, Graduate Group in Parasitology, University of Pennsylvania; professor, member of the Cell and Molecular Biology Graduate Group (CAMB), College of Arts and Sciences, University of Pennsylvania

**Degrees:**

1. B.S., wildlife biology, Cornell University, 1950
2. M.S., parasitology, McGill University, 1952
3. Ph.D., parasitology, McGill University, Montreal, Canada, 1955

**Research interests:**

- Developmental biology and neurobiology of parasitic nematodes.
- Ecology and epidemiology of parasitic helminths of man and animals.
- Experimental ancylostomiasis and strongyloidiasis: laboratory models for intestinal nematode parasitism.

**Beginnings:** “I began my career by working with nematode parasites of cattle and sheep for the U.S. Department of Agriculture in State College, New Mexico, in 1955,” said Dr. Schad. “We were studying the transmission of parasites from wild to domestic ruminants. After three years, I decided that I was not happy working as a civil servant or collecting parasites from desert big horn sheep, pronghorn antelope and other wildlife that were brought in by hunters. I looked into other options and chose to go back to McGill, where I changed my primary area of study from wildlife parasitology to ecological and evolutionary parasitology.

“In the mid-1960s, I accepted an offer from Johns Hopkins to go to Calcutta, India, to run a parasitology program—part of an international center for medical research and training. I studied the population ecology of hookworm parasitism in poor farmers. I did this in two 2-year rotations over a five-year period, until the Indian government, concerned that academics might be covert American government agents, began taxing our income at such a high rate, that we could not stay. I could, however, be there as a tourist—so I returned for four months, worked weekdays and went touring on weekends. My favorite side trip was a trip to Katmandu, Nepal. I stayed with Hopkins until 1974, then came to Penn.”



Photos by John Donges

**Life at Penn:** “Lawson Soulsby was the chair of Pathobiology when I came. I had recently gotten NIH funding to study arrested development hookworm larvae in dogs as a model for the developmental arrest of hookworms in humans, the latter being one of the main findings of my work in India. Soulsby shared this interest. My present work evolved from these studies. It concerns the developmental biology of intestinal nematodes, including the neurobiology of host-finding behavior. It has been a real pleasure to work here, under both **Alan Kelly**, now Dean Emeritus of the School, and **Phil Scott** as Pathobiology Department chairs. People get along beautifully and work well together.”

**Honors:** Selected honors include president of American Society of Parasitologists in 1990; Lloyd Rozeboom Memorial Lecturer at Johns Hopkins School of Public Health in 1992; American Society of Parasitologists, Stoll-Stunkard Memorial Lecturer in 2000 and Clark P. Read Mentorship Award from the American Society of Parasitologists in 2005.

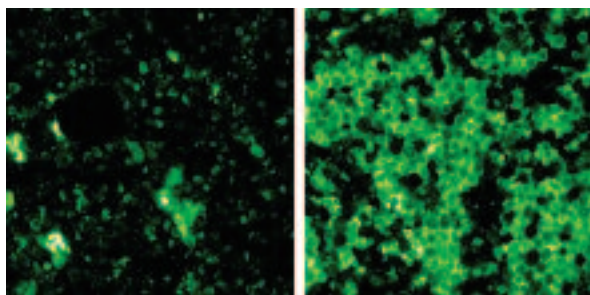
**The author:** *Parasitology: The Biology of Animal Parasites* (with E. R. Noble and G. A. Noble et al.), 1989; *Hookworm Disease: Current Status and New Directions* (with K. S. Warren), and *Hookworm Infection and Anemia: A Public Health Manual* (with Z. S. Pawlowski and G. J. Stott); dozens of book chapters, abstracts and articles, including the *Proceedings of the National Academy of Science*, “Urocanic acid is a major chemoattractant for the skin-penetrating nematode parasite *Strongyloides stercoralis*,” published this year and partially funded by an NIH grant awarded to Dr. Schad.

**What’s next:** With “**Sparky**” **Lok** as co-principal investigator we are renewing our investigations of the neurobiology of host finding behavior in skin penetrating parasitic nematodes. Incidentally, I just finished sitting for my portrait—**Gayle Joseph**, executive assistant to Associate Dean for Research, is an artist, and she did a beautiful job, complete with the bright red academic regalia of McGill University. I guess I need to decide where to hang it!”



## Prescreening Patients for Use of Anti-Cancer Drug

Researchers at Penn Medicine and Penn Vet have determined a way to pre-screen cancer patients to see if they are suitable candidates for proteasome inhibitors, a promising class of anti-cancer drugs. They propose to test for p53, a well-known tumor-suppressor protein that is broken down by cellular machinery called proteasomes. This study appears in the June 2007 issue of *Blood*.



Green staining depicts tumor cells dying after treatment with proteasome inhibitors. In the left panel, the tumor lacks p53, and only a fraction of the cells are killed. In the right panel, the tumor produces p53, resulting in massive cell death.

Image Credit: Andrei Thomas-Tikhonenko, PhD, University of Pennsylvania School of Medicine; *Blood*.

In cancer patients whose tumors do not produce p53, proteasome inhibitors might be ineffective. This patient group could be spared unnecessary treatment with possible harmful side effects. On the other hand, proteasome inhibitors are highly effective against lymphomas that do have the ability to produce p53.

“These findings have important implications for clinical practice,” Dr. Thomas-Tikhonenko said. “The proteasome inhibitor bortezomib is approved by the FDA for the treatment of multiple myeloma, another cancer of lymphoid cells. Yet, only a fraction of multiple myeloma patients respond to the drug.”

## Gene Therapy Can Restore Vision

**Gus Aguirre, V’68**, professor of ophthalmology and medical genetics, was part of a multi-institutional study whose results demonstrated that gene therapy used to restore retinal activity to the blind also restores function to the brain’s visual center, a critical component of seeing. The study, led by Geoffrey Aguirre, assistant professor of neurology at Penn Medicine, shows that gene therapy can improve retinal, visual-pathway and visual-cortex responses in animals born blind and has the potential to do the same in humans.

Findings of the study were reported in the journal *PLoS Medicine*.

## Skin Secretion Linked to Parasite

Researchers from Penn Medicine and Penn Vet have found a link between some of the most common parasites that cause infection and disease throughout the developing world and their attraction to a chemical secreted from human and animal skin.



*Strongyloides stercoralis*. Courtesy of Smittskyddsinstitutet, the Swedish Institute for Infectious Disease Control.

These skin-penetrating parasites infect more than 600 million people worldwide and contribute to anemia, ill health and poor physical and cognitive development among children of developing nations.

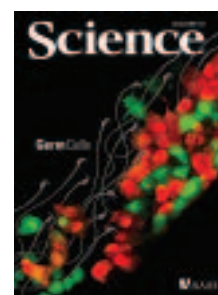
Urocanic acid, a common histidine metabolite abundant in mammalian skin, attracts the parasitic nematode *Strongyloides stercoralis*. But, according to researchers, the attraction can be suppressed by metal ions, suggesting a potential new strategy for preventing infection.

The findings were reported in the *Proceedings of the National Academy of Sciences*. **Drs. Gerhard Schad**, professor of parasitology; **Mario Brenes**, research specialist; and **Seth Dunipace**—all from the Department of Pathobiology at Penn Vet.

## Reversing Infertility in Cancer Patients

In the April 20 issue of *Science*, **Ralph Brinster, V’60**, Richard King Mellon Professor of Reproductive Physiology, reports methods for the recovery, culture and transplantation of spermatogonial stem cells.

Recovering stem cells and freezing them at very low temperatures (cryopreservation) can be a way to preserve the male germ line of valuable livestock animals, companion animals and endangered species. Perhaps the most potentially valuable medical application of spermatogonial stem cell (SSC) research is for prepubertal boys undergoing chemotherapy or irradiation for cancer. In many cases, the SSCs are destroyed as a side effect of treatment, and the patient is left infertile. It is possible to obtain a testicular biopsy and cryopreserve a cell suspension produced from the biopsy. This cell suspension containing SSCs could then be transplanted back into the patient’s testes at any age after treatment, potentially resulting in reversal of infertility through renewed sperm production. ♣



Copyright Science

# New Bolton Center's Swine Facility Goes Green

BY JENNIFER RENCH

Penn's New Bolton Center has always been at the forefront of teaching, healing and research—and now its swine facility is at the forefront of alternative energies. Recently installed solar panels at the facility are now active and generating solar energy for it. “Our goal is to be proactive in the ‘greening’ of animal agriculture,” said **Dr. Tom Parsons**, associate professor of swine production medicine and head of the swine facility.

The globally rising cost of energy has necessitated cheaper, alternative energy sources. Penn is the first swine facility to adopt the idea of “going green.” **Dr. Zach Matzkin**, staff veterinarian with the Penn swine group,

and Dr. Parsons started the initiative through funding provided by the Sustainable Development Fund, the Pennsylvania Department of Environmental Protection and the Pennsylvania Pork Producers Council.

“The genesis of this initiative was the recognition that there was a lot of roof space on pig barns ideally oriented for solar panels,” said Dr. Parsons. New Bolton Center's swine facility has developed this project as a prototype that eventually may be adopted by the entire swine industry.

Dr. Matzkin will track the solar panels' energy production over the next two years and quantify how much energy is produced during certain times of the year, and how much of this energy can be used in the swine facility.

Penn Vet is fortunate in that Pennsylvania has been a leader in developing innovative environmental and energy solutions. In October 2006, Governor Ed Rendell announced that \$5.1 million will be given to support 27 state projects advancing the use of clean-energy technologies, lessening U.S. dependence on foreign fuel and significantly reducing air and water pollution. “Pennsylvania is harvesting the benefits of strategic investments in clean energy technologies to protect our environment, improve our energy security and put our residents to work in the most dynamic manufacturing sector of the twenty-first century. Our Commonwealth is leading the way to build a bridge to America's clean energy future,” Governor Rendell stated. ♡



Above: Solar panels on the roof of the swine facility capture energy. Photo by Dr. Zach Matzkin. Right: Piglets in one of the facility's stalls. Photo by Sabina Louise Pierce.





Dr. Michael Moyer, V'90,  
director of Penn Vet's Shelter  
Animal Medicine program,  
with a young patient at PAWS.  
Photo by John Donges.

## Penn Vet's Shelter Animal Medicine Program Fuels Dramatic Increase in Homeless Pet Survival

BY NANCY WEST

**H**omeless dogs and cats in Philadelphia have a better chance of surviving these days, thanks to the Shelter Animal Medicine (SAM) program and the collaboration between the School and the Philadelphia Animal Care and Control Association (PACCA). PACCA is the city of Philadelphia's contracted animal control shelter, taking in almost 30,000 animals each year. The Philadelphia Animal Welfare Society (PAWS) is a donor-funded division of PACCA.

"The key to saving the lives of homeless pets is spaying/neutering in a timely fashion," said Michael R. Moyer, V'90, Rosenthal Director of Shelter Animal Medicine at Penn Vet. "The sooner we neuter a pet, the sooner it can be adopted, which makes room for another incoming animal and thereby, saves a life."

The number of homeless pets being spayed/neutered and ultimately saved has increased dramatically at PAWS, with the help of Penn Vet students completing the SAM rotation, as well as a per diem veterinarian and a cohort of

pro bono veterinarians. This year, the number of spays/neuters performed each month has averaged 650, a phenomenal increase from only 35 per month in 2004, prior to the collaboration. Currently, students perform about 20 percent of these procedures.

As a result of the increased number of spays/neuters, the percentage of homeless pets being saved has more than quadrupled, from 11 percent in 2004 to 53 percent in 2006. In the first year of Penn Vet's SAM program, soft tissue surgical students neutered or spayed more than 1,250 animals, greatly increasing their chances of being adopted. Dr. Moyer credits PAWS' excellent leadership and the partnership with Penn Vet for this success.

Equally important, adoptions are on the rise, reported Dr. Moyer. "More people are choosing to rescue shelter animals, not because they can't afford to buy a purebred, but because they are learning to see adoption as an option that saves lives," he said.

### Educating Students

While helping to address the city's pet overpopulation problem, students are mastering surgical techniques and learning about primary care and behavior as part of their rotation through the two-week Shelter Animal Medicine elective.

The students provide expanded service to the community by seeing about 200 animals per month for primary care and behavior issues. This represents a tenfold increase over past years when the shelter's staff veterinarian, dedicated to performing spays/neuters, rarely had time to see animals for primary care. Recently, a vaccine clinic drew 170 pet owners in one day even though it was unadvertised.



Photo by Sabina Louise Pierce.

Students learn about the behavioral aspects of sheltering from residents in Penn Vet's Section of Behavior who visit PAWS weekly. "Our goal is to teach students to recognize common behavioral problems and mismatches between



Photo by John Donges.

Students prepare animals for spaying/neutering at the PAWS facility in Philadelphia.

owner/adopter expectations and the realities of the pets in the shelter," noted Dr. Moyer, who hopes to have Penn Vet's other specialty services participate in the SAM program in the future. "The shelter provides a great educational opportunity for the students to see animals and situations similar to what they will see in their first day of practice."

A growing interest in shelter animal medicine as a career choice is reflected in the number of students opting to take the elective. Sixty-eight out of 105 students in the Class of 2008 will complete the SAM rotation. This includes about 90 percent of the students majoring in small animal medicine. "Over the past 10 years or so, the number of veterinarians working full time in shelters has increased," observed Dr. Moyer. "It has become a more professionally focused field, requiring veterinarians who bring business acumen to the table as well as the desire to save animals."

### Looking Ahead

Future plans for the program include obtaining funding for the establishment of an internship/residency in shelter animal medicine as well as a residency in forensic veterinary pathology, which would be the first of its kind in the

country. "With an urban campus and large caseload, we are uniquely positioned to establish a residency of this nature," emphasized Dr. Moyer. "Forensic veterinary pathologists could provide consultative services for investigation of animal cruelty and toxicities. This would ultimately have a direct human benefit since a growing body of evidence links abuse of animals to abuse of humans."

Dr. Moyer also hopes to expand services to the community, obtain research grants, provide continuing education training in pediatric spays and neuters, and build a body of knowledge that will enable Penn Vet to serve as a national resource for shelter animal medicine.

### Volunteers Needed

In addition to a world-class shelter animal medicine faculty and collaboration with the city shelter, the continued success of the program requires a sustainable and substantial effort from pro bono veterinarians who are willing to make a commitment to saving animal lives while contributing to the education of Penn Vet students. If you are interested in volunteering at the shelter, contact Daisha Pierce at 215-520-6465 or [dpierce@phillypaws.org](mailto:dpierce@phillypaws.org). 🐾



Photo by Sabina Louise Pierce.



## Michael R. Moyer, V'90: Saver of Homeless Pets

**M**ichael R. Moyer, V'90, was drawn to the world of shelter animal medicine by a terrible paradox: The people who love animals are asked to kill them in the shelter community. "I was always intrigued by this situation and thought there must be some way to address it by engaging veterinarians in the life-saving work of sheltering and by educating and encouraging conscientious caring pet owners to adopt these animals," said Dr. Moyer.

As the first Rosenthal Director of Shelter Animal Medicine at the School, Dr. Moyer is, indeed, finding ways to save the lives of more homeless pets.

His interest in becoming a veterinarian began at age 14 when **John Wells, V'76**, persuaded **Gregory Godon, V'73**, to hire him as a "kennel boy" for their practice. In addition, Dr. Moyer grew up in a family that gave refuge to many stray cats and a home to dogs from the local humane shelter.

After graduating from Penn Vet, he joined fellow alumnus **Max Herman, V'59**, and his son, **Michael Herman, V'81**, in practice at Trooper Veterinary Hospital in Norristown, Pa.

Two years later, he entered the shelter animal medicine arena as executive director of the Chester County SPCA, which shelters 7,000 to 8,000 dogs and cats annually. When administrative duties took more of his time than hands-on care of animals, he was lured back to practice in 1994 and ultimately purchased Bridgewater Veterinary Hospital in Bensalem, Pa. He and his wife, Monica, also sponsor an Opportunity Scholarship to benefit a Penn Vet student who is interested in small animal practice.

An active volunteer for organizations that work to reduce the homeless pet overpopulation, Dr. Moyer has provided pro bono veterinary services to a greyhound adoption service, the Philadelphia Animal Care and Control Association (PACCA) and the New Jersey Alliance through his practice.

A past president of the Pennsylvania Veterinary Medical Association (PVMA),

he received the PVMA Veterinarian of the Year Award in 2005 in recognition of his leadership and collaborative efforts to address feral cat issues. He also established the association's Animal Welfare Committee. Dr. Moyer sits on the boards of directors of the American Animal Hospital Association, Alliance for Philadelphia's Animals and PACCA, and is a member of the Association of Shelter Veterinarians. He also is set to assume the presidency of the Veterinary Medical Alumni Society this fall.

In 2005, Dr. Moyer was asked to join Penn Vet's exploratory committee for the Shelter Animal Medicine program and, in 2006, was named as its first director. "It's been a remarkable opportunity to return to the University as an instructor, to roll out a new program and begin educating veterinary students about the field," said Dr. Moyer. "It's a real joy to provide oversight for surgical and primary care training, and it's very rewarding to see students have their first opportunity to put their hands on a case and make decisions about it. I hope to see our students start pursuing careers in shelter animal medicine." ♡



Dr. Moyer and a student examine a PAWS puppy. Photo by John Donges.

**A**

s I close my two-year term as President of the Veterinary Medical Alumni Society (VMAS), I am very pleased with the current path of your alumni program.

Your VMAS continues to focus its priorities and create a framework for partnerships with the School. Penn Vet alumni relate to the School in many important ways—through support of students, academics, referrals to our large and small animal hospitals, and, perhaps most importantly, by carrying the Penn Vet legacy into your daily practice.

We will continue to support you in your professional life, and have many exciting programs at the School to enhance communication among our diverse alumni. Some of our current programs to stay connected with you include:

- *Class Agent Program* – By working with class liaisons, class leaders can connect to classmates directly about upcoming School activities.
- *Alumni Interest Survey* – We want to know what keeps you interested in your alma mater. Look for a questionnaire to be mailed this summer. Please share your candid thoughts with us!
- *Penn Vet Alumni Directory* – This directory, the first produced since 1998, will be available next year. Gathering updated alumni contact information begins October 2007.
- *Penn Vet Web site* – Penn Vet has begun an initiative to revamp the School's Web site to ensure our e-visitors discover all that we do. We value the ideas of our alumni

family and hope to make the Penn Vet Web site your portal for veterinary information. Please share your ideas on how we can enhance the delivery of information.

- *Alumni Liaison Committee* – The Alumni Liaison Committee brings key alumni leaders together to help strengthen the School's relationship with alumni. It accomplishes this through meeting annually with administration, faculty and students to discuss the state of education, practice, research and alumni relations at Penn Vet. Please see a full committee report of the May 2007 meeting at [www.vet.upenn.edu](http://www.vet.upenn.edu).



Also, be sure to mark your calendars for October 27 to attend the Alumni Reunion Dinner at New Bolton Center, where we will be celebrating all reunion classes and honoring the Classes of 1982 and 1957 for their 25th and 50th reunions. Join us for dinner to “recognize, reunite and reminisce” at the beautiful Allam House. Dean Joan Hendricks invites you to her cocktail reception at 5:30 p.m. and dinner at 7:00 p.m.

The presidency of VMAS will be transferred to President-Elect **Michael Moyer, V'90**, at the Alumni Reunion Dinner. I am confident your Society leadership will continue to play a crucial part of the School's legacy and its future. It has been an honor to serve, and I encourage you to get involved.

—MARILYN WEBER, V'75

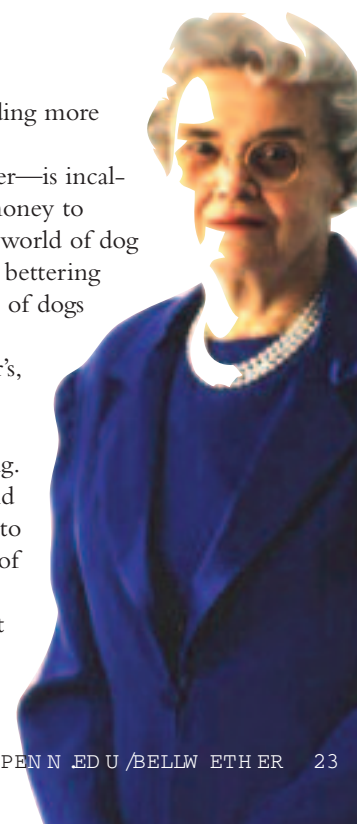
## Gift of a Lifetime: Dr. Josephine Deubler, V'38

Next year will mark 70 incredible years of service that one special VMD has given to Penn Vet, including more than 50 years of genetic research and decades of educating generations of veterinary students.

**Dr. Josephine Deubler's** value to the School—as its first woman graduate, a scientist and a teacher—is incalculable, but is even more impressive when combined with her unique talent and passion for raising money to improve animal health through research, teaching and clinical practice. As an involved member of the world of dog showing and breeding, she established long-time friends, many of whom also wanted to play a role in bettering animals' lives. One such friend was Isabel Prizer Robson, an award-winning equestrienne and breeder of dogs and horses, supported Penn Vet's two hospitals during her lifetime and left her \$10-million estate as a bequest to fund the research of leading Penn Vet faculty. Mrs. Robson's legacy, along with Dr. Deubler's, will touch the lives of thousands of dogs and horses, and the humans who love them.

Bequests like Mrs. Robson's—and other types of planned gifts—offer animal lovers flexible, tax-advantaged arrangements to make substantial gifts in ways that complement personal financial planning. These gifts can be designed to generate life-long income, obtain significant income-tax deductions and reduce or eliminate estate taxes. Planned gifts also can be a means of converting low-yielding assets into a higher income stream at a reduced capital gains cost. Penn's Office of Gift Planning offers a variety of life income arrangements, including charitable gift annuities and charitable remainder trusts. Planning staff also can help donors tailor bequests and structure gifts of life insurance and other assets to benefit the School.

Please contact the Office of Gift Planning at 800-223-8236 or visit [www.alumni.upenn.edu/giftplanning](http://www.alumni.upenn.edu/giftplanning) to learn how we can assist you in meeting your philanthropic goals. ■





## 1950s

**1952** – **Raymond J. Widmann** received the 2007 Veterinarian of the Year Award from the Pennsylvania Veterinary Medical Association (PVMA). The award is presented for outstanding achievement in veterinary medicine within the past year.

## 1960s

**1967** – **Lenn Harrison** retired as director of the University of Kentucky College of Agriculture's Livestock Disease Diagnostic Center. He had served in the position for 16 years.

## 1970s

**1970** – **John L. O'Donoghue**, adjunct associate professor for environmental medicine at the University of Rochester School of Medicine and Dentistry, was appointed by the National Institute for Occupational Safety and Health to its Manufacturing Sector Research Council for developing the National Occupational Research Agenda. The Council identifies top occupational health problems for U.S. workers and is developing a national research strategy and implementation plan to address these problems over the next decade.

**1975** – **Lawrence J. Gerson** received the 2007 Veterinary Industry Partner Award from the PVMA. The award is presented to recognize steadfast commitment to ensuring the vitality of the PVMA and the veterinary profession.

**1975** – **Anna E. Worth**, director and owner of the West Mountain Animal Hospital in Shaftsbury, Vt., was elected vice president of the American Animal Hospital Association.

**1978** – **Patricia Brown** was appointed director of the National Institutes of Health's Office for Laboratory Animal Welfare (OLAW). Dr. Brown had served as acting director of OLAW since July 2006. She joined the U.S. Public Health Service in 1986 and served in a variety of positions at the NIH within the Veterinary Resources Branch, the National Cancer Institute and the Office of Animal Care and Use.

## 1980s

**1981** – In July 2006, **Pamela J. McKelvie**, veterinary consultant at Penn Vet's PennHIP® Analysis Center, had a speaking role in a commercial for the Pennsylvania Credit Union Association that aired on major network and cable television stations. In July 2006, Dr. McKelvie's first acting job was in a University of Pennsylvania Health System commercial.

**1982** – **Douglas J. Pierson** received the 2007 Lifetime Achievement Award from the PVMA for a lifetime of selfless dedication to veterinary medicine, the health and welfare of animals and betterment of the profession.

**1985** – In May 2007, **Christina Dougherty**, senior veterinarian at Pfizer Animal Health, was part of a Pfizer team that worked with staff from the Marine Mammal Center to determine the best medication for treating two lost and injured humpback whales in California's Sacramento River.

**1988** – In May, *Invertebrate Medicine*, the recently published book edited by **Gregory A. Lewbart**, with contributions by **Michael S. Bodri**, and **Amy L. Hancock, V'02**, was recognized for its impact with a 2007 "Texty" Textbook Excellence Award by the Text and Academic Authors Association. The book, published by Blackwell Publishing Professional, won in the College Life Sciences category.

Dr. Lewbart also was named "2007 Exotic DVM [VMD] of the Year" by the Zoological Medicine Network/*Exotic DVM* magazine. The Exotic DVM of the Year Award is presented annually to an individual who embodies the essence of stewardship of exotic companion animal species, contributes to the education of veterinary students and clinicians and serves as an international ambassador of goodwill for the exotic animal profession. Dr. Lewbart is professor of aquatic animal medicine at the North Carolina State University College of Veterinary Medicine.

## 1990s

**1990** – The Friends of Ambler Farm appointed **Nick Sitinas** to its board. Dr. Sitinas and his wife, Dr. Stacy Robertson-Sitinas, also a veterinarian, run South Wilton Veterinary Group and are active in the Wilton, Pa., community.

**1992** – **Maureen Hargaden** was named by the YWCA of Bergen County, NJ, as recipient of the Tribute to Women and Industry award in recognition of her work as director of research in safety and technical sciences, at Roche Pharmaceuticals, Nutley, N.J. A Roche employee since 1998, Dr. Hargaden heads a 45-member research team that aims to develop and apply the most effective scientific protocol for testing the effectiveness of new drugs.

**1995** – **Mary Bryant**, 2007 president of the Pennsylvania Veterinary Medical Association, received two awards from Merial this year: the Circle of Excellence, based on outstanding support to the Merial sales team, and the Vital Circle, the highest award at Merial, in recognition of teamwork and leadership.

**1995** – In April 2007, **Patty Khuly** began writing the weekly pet column “Dr. Dolittler” in the *Miami Herald*. Dr. Khuly has practiced small animal medicine for 12 years—two in Philadelphia and 10 at Sunset Animal Clinic in south Miami.

**1996** – **Julianne Grady** gave birth to her third daughter, Sierra Skye Freeman, on April 18, 2007.

**1996** – Michigan State University’s College of Veterinary Medicine honored **Ari Jutkowitz**, assistant professor of small-animal clinical sciences, with the Carl J. Norden Distinguished Teacher Award in recognition of his outstanding teaching ability, leadership and high moral character.

**1999** – **Julie Fishman Ekedahl** gave birth to a daughter, Anne Catherine Ekedahl, in spring 2007. Dr. Ekedahl has her own practice, Veterinary Imaging Specialists of Idaho, in Boise.

**1999** – **Dara Zerrenner** gave birth to a son, Ryan Patrick Franks, on May 1, 2007.

## 2000s

**2002** – **Amy L. Hancock** coauthored the book *Invertebrate Medicine*, edited by **Dr. Gregory A. Lewbart, V’88**, that won the 2007 “Texty” Textbook Excellence Award by the Text and Academic Authors Association. The book, published by Blackwell Publishing Professional, won in the College Life Sciences category.

**2004** – **Abigail Smith** married Steven Violin on July 14, 2007 in Massachusetts.

## deaths

**1935** – **William H. Waddell** on January 30, 2007.

**1939** – **Leonard Krawitz** on May 12, 2007.

**1943** – **Harold M. S. Smith** on July 5, 2007.

**1946** – **Henry W. Kulp** on April 28, 2007.

**1950** – **Robert Thornton Henry, Jr.** on June 20, 2007.

**1952** – **Theodore A. Rude, Jr.** on June 28, 2007.

**1956** – **John W. Cable** on May 14, 2007.

**1981** – **Lynne M. Maletz** on June 7, 2007.

**1994** – **Gwen Fernich Lowitt** on May 6, 2007.

# alumni reunion dinner 2007

Celebrating the 50th Reunion of the Class of 1957 and  
the 25th Reunion of the Class of 1982

Saturday Evening, October 27, 2007

The Allam House, New Bolton Center, Kennett Square, Pennsylvania

All Penn Vet alumni welcomed. For updates and to see who’s coming, or to register with your credit card through a secure online transaction, visit [www.vet.upenn.edu/alumni/alumnireuniondinner2007](http://www.vet.upenn.edu/alumni/alumnireuniondinner2007)



Many Species. One Medicine.™





# Commencement 2007

Students and their families and friends assembled at the Zellerbach Theatre of the Annenberg Center on May 14, 2007, for the 122nd Commencement exercises of the School. With the class of 2007, Penn Vet has graduated 6,374 veterinarians, 2,238 women and 4,136 men. The Class of 2007 numbers 104 and is composed of 85 women and 19 men.

The Commencement address was given by William L. Jenkins, B.V.Sc., M.Med.Vet., Ph.D., president of the Louisiana State University System, and the veterinarian's oath was administered by **Dr. Mary A. Bryant, V'95**, president, Pennsylvania Veterinary Medical Association.

## Presentation of Awards

Leonard Pearson Prize	Janik Christopher Gasiorowski
J.B. Lippincott Prize	Jamie Lynn Rosenthal
1930 Class Prize in Surgery	Lelivelt Swanson
Auxiliary to the American Veterinary Medical Association Prize	Timothy Michael Schwab
Faculty/Student Chapter, AVMA Prize	Eva Furrow
Phi Zeta Award	Rachael Joseph

## Acknowledgement of Awards

American Animal Hospital Association Award	Anna-Michelle Dendy Young
American Association of Feline Practitioners Award	Rebecca Lynn Haviland
American College of Veterinary Ophthalmologists Award	Grace Anne Mengel
American College of Veterinary Radiology Award	Michelle Anne Giuffrida
American College of Veterinary Surgeons Prizes	
Small Animal Surgery Prize	Daphne Christine Clendaniel
Large Animal Surgery Prize	Anne Elizabeth DeNaples
Auxiliary to the American Veterinary Medical Association Prize	Timothy Michael Schwab
Everingham Prize for Cardiology	Catalina Dillems Montealegre
Faculty/Student Chapter, AVMA Prize	Eva Furrow
Field Service Prize	Anna Michele McEvoy-Paull
The Peter Francis Anatomy Award	Katherine Tucker-Mohl
Hill's Award	Tanya Kameneva
James Hazlitt Jones Prize in Biochemistry	Katherine Tucker-Mohl
Large Animal Emergency and Critical Care Award	Andrea Maria Caniglia
Large Animal Medicine Prize	Rachael Joseph
Large Animal Reproduction Award	Modesty Danielle Dallmeyer
Large Animal Surgery Prize	Modesty Danielle Dallmeyer
J.B. Lippincott Prize	Jamie Lynn Rosenthal

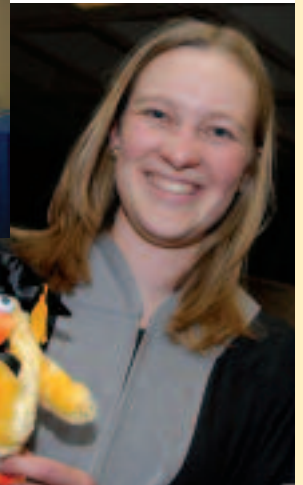
- Danielle Shira Abrahams
- △ Elizabeth Anne Allaman ♦
- △ \* Donniel Evan Astor
- Cheryl Lee Bell ♦
- △ Robin Lynn Benton ♦
- Caitlin Lenore Blazic ♦
- Justine Vincent Blout ♦
- △ Tamara Ann Borland
- Amy Marie Brazil
- \* James Silas Buckman ♦
- △ \* Jeffrey Wynne Burdick
- △ Andrea Maria Caniglia
- Jason William Chamberlin ♦
- △ \* Maryssa Ellen Chiarello ♦
- △ Daphne Christine Clendaniel
- Melody Robin Conklin ♦
- Adam William Corbett ♦
- Rachel Lynn Coyer
- △ Modesty Danielle Dallmeyer ♦
- △ \* Leslie Anne Dawson ♦
- △ Anne Elizabeth DeNaples
- △ Anh Ngoc Diep
- Adrienne Rachel Doering ♦
- △ Kathryn Loretta Dolan ♦
- △ Tisha Lee Ebling ♦
- Sarah Elizabeth Eggleston
- △ \* Michelle Elaine Ellison ♦
- △ Nonya Nessel Fiakpui ♦
- △ Jonathan Daniel Foster ♦
- △ Andrea St. John Freeman ♦
- △ \* Eva Furrow
- △ Jonathan Richard Owen Garber ♦
- △ \* Janik Christopher Gasiorowski ♦
- △ Taryn Marie Gassert
- △ \* Elise Wolman Geldon ♦
- △ Laura Gibeon
- △ Amy Catherine Girifalco
- △ \* Michelle Anne Giuffrida
- Kathryn Bernadette Gleason ♦
- △ Ryan Bradley Gorman ♦
- △ Margaret Ann Hamilton ♦
- △ Kimberly Jean Harmon
- △ \* Rebecca Lynn Haviland ♦
- △ \* Shannon Long Hawkins ♦
- Stephanie Ann Herr ♦
- Annette Christine Homison
- △ Nicholle Robin Hommel ♦
- △ Jonathan Garret Hopper ♦
- △ Tyler Wells Hotaling
- △ \* Rachael Joseph ♦
- △ Tanya Kameneva ♦
- Colleen Marie Kane
- Michelle Jeanette Kazdin ♦
- △ Ann Patricia Klocke ♦
- △ Cara Darling Lane ♦
- Ania Paruch Langrall ♦
- △ Jessica Louise Latham ♦
- Laura Jean Leighton
- Deborah Gail Levison ♦
- △ Kateryna Anastasia Lobus ♦
- △ Jennifer Alyson Magilton ♦
- Isaac Louis Maxmen
- △ \* Jenneka Powers McCarty ♦
- △ \* Erika Perin McDonnell ♦
- △ \* Anna Michele McEvoy-Paull ♦

- △ Meghan Kathleen McGrath
- Michelle Anne McPartlan ◆
- Grace Anne Mengel
- Craig Meredith
- Christine Marie Metzger
- △ Emily Lynn Miedel ◆
- △ Stephanie Ann Miller
- Jennifer Melissa Mitchell ◆
- △ Peter Joel Mohoric ◆
- \* Catalina Dillems Montealegre ◆
- Jennifer Muller ◆
- Tara O'Brien ◆
- Shannon Ann Omlor
- △ Anna Lynne Owren
- △ \* Heidi Lynn Reesink
- △ Marisa Roberto
- △ Joshua Phillip Roesener
- △ \* Jamie Lynn Rosenthal ◆
- △ \* Carley Amber Saelinger
- △ Holly Jane Schroll
- △ Timothy Michael Schwab
- Laura Yvonne Shone
- △ Megan Lynn Souders
- △ \* Kirsten Ann Steele
- △ \* Lelivelt Swanson
- Dana Jean Tashjian
- Rachel Ellen Ticktin ◆
- Ross Tanner Trammell
- △ \* Katherine Tucker-Mohl
- △ Elizabeth Lynn Venit
- △ Mark Alan Verdino
- △ Heather Ann Wall ◆
- △ Cristina Marie Weiner
- Nadira Rae Williams
- △ \* Heather Simon Wood
- △ \* Marcie Ann Wynkoop ◆
- △ \* Anna-Michelle Dendy Young
- △ \* Michael Scott Zaid
- Tracy Elizabeth Zeldis ◆



### Merck Awards

Small Animal Award . . . . .	Michael Scott Zaid
Large Animal Award . . . . .	Taryn Marie Gassert
1930 Class Prize in Surgery . . . . .	Lelivelt Swanson
1956 Class Award for Achievement in Pathology . . . . .	Jamie Lynn Rosenthal
George M. Palmer Prize . . . . .	Kimberly Jean Harmon
Leonard Pearson Prize . . . . .	Janik Christopher Gasiorowski
Pennsylvania Society for Biomedical Research Award for Outstanding	
Scholarly Work in Laboratory Animal Medicine and/or Biomedical Research. . . . .	Jeffrey Wynne Burdick
Pfizer Animal Health Small Animal Clinical Proficiency Award. . . . .	Andrea St. John Freeman
Pfizer Veterinary Specialty Team Award in Analgesia/Anesthesia . . . . .	Nonya Nessel Fiakpui
Pfizer Veterinary Specialty Team Award in Dentistry . . . . .	Catalina Dillems Montealegre
Pfizer Veterinary Specialty Team Award in Dermatology . . . . .	Marcie Ann Wynkoop
Phi Zeta Award . . . . .	Rachael Joseph
Charles F. Reid Sports Medicine and Imaging Award. . . . .	Heidi Lynn Reesink
Lynn Sammons Food Animal Award . . . . .	Jonathan Richard Owen Garber
VECCS Award for Proficiency in	
Veterinary Emergency and Critical Care Medicine . . . . .	Michelle Anne Giuffrida
Morris L. Ziskind Prize in Food Animal Medicine . . . . .	Rachael Joseph
Morris L. Ziskind Prize in Public Health. . . . .	Jamie Lynn Rosenthal



- △ Senior Year Dean's List
- \* Member Phi Zeta, Beta Chapter  
National Honor Society of  
Veterinary Medicine
- ◆ Completed the Pfizer-Penn  
Veterinary Medicine Business  
Certificate Program
- ▽ Indicates August 4, 2007  
Graduate
- ◇ Indicates December 20, 2007  
Graduate

Photos by Sabina Louise Pierce.

# LET THE FACTS SHOW YOU WHY RIMADYL<sup>®</sup> (carprofen) SHOULD BE YOUR FIRST CHOICE.

---

Get the facts and find out why RIMADYL is #1<sup>1</sup> at  
[www.rimadyl.com/facts](http://www.rimadyl.com/facts) or ask your Pfizer representative.



**THE FACTS IN  
BLACK & WHITE.**

---

**RIMADYL<sup>®</sup>**  
(carprofen)

 Pfizer Animal Health

1) Market Dynamics Inc (MDI) 2006. RIMADYL is a registered trademark of Pfizer Inc. ©2006 Pfizer Inc. All rights reserved. RIM1006118

 **Penn**  
Veterinary Medicine

Penn Veterinary Medicine  
3800 Spruce Street  
Philadelphia, PA 19104-6008

Address Service Requested

Nonprofit Organization  
U.S. Postage  
PAID  
Philadelphia, PA  
Permit No. 2563