High Noon for Animal Rights Law
The Coming Showdown between Pet Owners and Guardians
The stakes are high.

Penn Veterinary Medicine faces a special Challenge.

We must receive 2,500 new gifts—of any size—to earn $1.5 million from Michigan’s Kresge Foundation. This is the largest such grant Kresge has ever offered to a veterinary school. A remarkable opportunity!

This is all-or-nothing: one gift short, and no Kresge money is given. Kresge’s grant will be used to complete our new Teaching and Research Building, which is set to be open for the fall 2006 semester.

We’re in the home stretch now. Pledging any amount toward this Challenge Grant will place you among a growing group of special friends who can proudly ask, “I’m in. Are you?”

To learn more about supporting Penn, the front-runner in veterinary medicine, call the Office of Development and Alumni Relations at 610-925-6500. For an up-to-date look at our progress, visit our website at www.vet.upenn.edu.
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 policy. The coming showdown between pet owners and guardians. Thank you for taking a seat! Special gifts to the school. Take a seat! Penn first with veterinary echocardiography. V.M.D. Notes. Photo album. Upcoming events.

Cover story

High noon for animal rights law: the coming showdown between pet owners and guardians.

About our cover

You will no doubt recognize a familiar face on the cover of this edition of Bellwether. His name is Chondo, and he is one of the Wegman Weimaraners. Photographed by and printed courtesy of William Wegman, Chondo doesn’t like to sit long, but is eager to work. According to Wegman’s website, www.wegmanworld.com, Weimaraners in particular like to play, and they see their photo ops as an interactive game.

Chondo is the perfect model for our cover story on animal rights law. “Whether we like it or not, people’s attitudes to animals have changed dramatically in the last 20–30 years, and our legal system is struggling to keep pace,” says James Serpell, Ph.D., the Marie A. Moore Professor of Humane Ethics and Animal Welfare and director of the Center for the Interaction of Animals and Society (CIAS). “The moral boundaries that traditionally separated humans and nonhumans have become increasingly blurred, and some animals—especially companion animals—have acquired a social and emotional value that far exceeds their basic economic worth. The ‘guardianship’ debate, like the ‘animal rights’ controversy before it, reflects these changing sensibilities and the rising tide of public pressure to award animals higher moral and legal status than they have hitherto enjoyed.” For more information about the CIAS, please visit www.vet.upenn.edu/research/centers/cias/.
A Message from the Dean

As this is the last column I shall write as Dean, I have chosen to address the high cost of tuition, an especially persistent concern that will continue to test the Veterinary School’s ability to attract the very best students.

Prior to 1995, owing to our relatively expensive tuition and resulting high student debt, the School was losing some of the finest Pennsylvania applicants, students who would have preferred a Penn education, but decided to attend second- or third-choice schools with more affordable tuition. This unfortunate trend was reversed dramatically when the Commonwealth’s governor and General Assembly substantially increased our appropriation. During the ensuing seven years, we were able to limit our annual increase in tuition to not more than 2.9 percent, even as the annual costs to the School for goods and services rose by well over 5 percent. The increase in appropriation also allowed us to award annual scholarships to every Pennsylvania resident; depending on a student’s class year, the scholarships ranged from $3,500 to $5,400. Also, the generous gifts for scholarships from so many friends of the School have helped enormously to lighten the debt burdens of hundreds of our in-state and out-of-state students.

Considering the state of our national and Commonwealth economies, I am concerned that our recent success in increasing the applicant pool and the GPA of incoming classes, as well as the much-improved capture rate of top Pennsylvania applicants, may not last. In FY’04, our appropriation from the Commonwealth was slashed by 5 percent. In FY’05 we received an increase of only 2 percent, and the governor’s FY’06 budget proposes an increase of only 1.5 percent. Clearly, we are losing ground steadily to the rate of inflation, which, if not reversed, will inevitably trigger an upward spiraling in the cost of tuition and very likely a steady decline in student quality.

The fundamental problem is the cost of quality veterinary medical education, arguably the highest among all the professions. In the School’s FY’05 budget of $107 million, tuition income of $9 million accounts for less than 10 percent of total costs. Our largest expenditures are for the teaching hospitals where veterinary students are trained in the diagnosis, treatment, and prevention of diseases in our six domestic species, as required by the accreditation guidelines for schools of veterinary medicine. Because our primary mission is education, teaching hospitals, with their spectrum of clinical specialties and state-of-the-art laboratories and equipment, are unable to operate in the black. Thus, the School is crucially dependent on Commonwealth support.

“I want to acknowledge with admiration and deepest gratitude the friendships and many kindnesses shown me by my faculty and students, by our alumni and the Board of Overseers, by the governor and members of the General Assembly, and by the thousands of friends and clients whose encouragement and support have made my Deanship the most enjoyable and memorable experience of my professional life.”

With the realization that annual increases in our Commonwealth appropriation, sufficient to keep pace with inflation, may be unlikely, we have been examining options aimed at minimizing tuition increases while securing our competitive position vis-à-vis other veterinary schools. The option to close our teaching hospitals and outsource clinical training to local practices or to other veterinary institutions, as a few schools are attempting to do, was quickly discarded as anathema to Penn’s tradition and philosophy. We believe that only a full-service university teaching hospital can provide appropriate clinical training for veterinary students. To develop an ability to apply basic knowledge gained in the first three years of a veterinary education to the clinical environment, assimilate clinical data, and think through cases to arrive at the correct diagnosis requires a university environment where teaching, research, and patient care are integrated. Moreover, clinical research in teaching hospitals is essential to advancing our understanding of disease processes and to developing new therapeutic modalities. Teaching hospital faculties are also the main providers of continuing education for practitioners in the field. Without these faculties, continuing education programs will wither.

Since faculty salaries consume the largest slice of the School’s budget, we considered the option of reducing faculty size. This too would be a spurious economy because the School is already a very lean enterprise, operating two campuses, each with its own hospital, a large research program, an extremely demanding curriculum, and an administrative burden comparable to some of the University’s larger schools. Moreover, the faculty generates $22 million in research grants and contracts, and $25 million in clinical income, five times the yield from tuition. Obviously, cutting faculty size would compromise unacceptably the School’s mission and quality.

Yet another option is to increase student numbers, thereby reducing the operating cost per student. This approach has added appeal because veterinary schools are producing too few graduates to satisfy societal needs in certain practice fields, public health, laboratory animal medicine, and teaching and research. Whereas our clinics can absorb additional students, and our new Teaching and Research Building will provide sufficient lecture, seminar, and conference rooms in Philadelphia, a large one-time expense will be needed for renovation of our Philadelphia-based teaching laboratories, including the gross anatomy lab, and for expanded lecture facilities at New Bolton Center. We estimate a one-time cost of at least $10 million, and are hoping that the Veterinary Workforce Expansion Act of 2005, introduced by Senator Wayne Allard (R) of Colorado and Congressman Chip Pickering (R) of Mississippi will be passed to provide the needed funds.

In closing, I want to acknowledge with admiration and deepest gratitude the friendships and many kindnesses shown me by my faculty and students, by our alumni and the Board of Overseers, by the governor and members of the General Assembly, and by the thousands of friends and clients whose encouragement and support have made my Deanship the most enjoyable and memorable experience of my professional life.

—Alan M. Kelly
An Interview with the Dean

By Helma Weeks

Part one of an interview with Alan M. Kelly was published in the last edition of Bellwether. Below is the second installment of that interview with Helma Weeks. Dean Kelly will step down on October 1, 2005, after nearly 12 years as dean.

HW: In one of your messages you said the School should “strengthen interaction between clinicians and bench scientists.” Do you think that there is greater interaction now than when you became dean?

AMK: It’s not as much as I would like. There are many opportunities, but yes, there is more interaction. The research retreats, for example, helped to link the different parts of the School. I am always pleased when I hear of collaborations as a result of the retreat.

HW: You have worked hard for new diagnostic and treatment facilities in Philadelphia and at New Bolton. The Scott Building was completed and new radiology equipment installed at New Bolton. The Ryan Hospital refigured and renovated the wards and installed new equipment in many areas, yet the wish lists keep growing. It seems never-ending.

AMK: It is insatiable, and you find that when you buy expensive new equipment it is obsolete in five years.

“...what a modern, humane swine facility should be...”

Construction during Dean Kelly’s Tenure

- Laboratory of Germ Cell Biology and Animal Transgenesis at NBC
- Space for the Confocal Microscope in Philadelphia
- Laboratory renovations in Quadrangle buildings and in Ryan Hospital
- Rosenthal laboratory renovations
- Ryan Hospital laboratory renovations
- HVAC renovation at NBC 2002–2004
- Marshak Dairy
- Construction of Richard S. Reynolds, Jr. Comparative Orthopedic Laboratory at NBC
- Student dormitories and Alumni Hall renovations
- New swine facility
- Scott Equine Sports Medicine Building
- Fairchild Aquaculture Building
- Groundbreaking for the Teaching and Research Building, 2004
- Further renovations at New Bolton Center

Because of consolidation of the livestock and poultry industries, our graduates must provide different services to producers and be educated in new disciplines. The vision of how the profession must change is beginning to emerge, but it hasn’t been well articulated yet. The profession has to seek public funds for infectious disease research, public health, epidemiology, everything related to food safety.

I should tell you about two things that I am really proud of at New Bolton Center that relate to this theme. One is the Marshak Dairy; it provides an educational setting in dairy medicine that is second to none. Drs. Mike Kristula [chief, Section of Field Service], Dave Galligan [associate professor of animal health economics], and Billy Smith [assistant professor of medicine] run the course and do an outstanding job. Students—there are about 10—who enroll in the production-medicine course have access to every record—crop selection, harvesting, quality, feeding costs, calf rearing, herd health and housing, everything—they learn how to analyze all the records under faculty supervision. Then they present to the faculty their findings and suggestions for improving the program. The students work as a group, don’t pull any punches in their report, have to defend their proposals, and learn more about dairy health and productivity than anybody, anywhere. It is a wonderful asset and it is a pity that more students don’t avail themselves of the opportunity.

The other is the swine unit—it’s a model of what a modern, humane swine facility should be and it has done an enormous amount to increase... (continued on page 6)
Search Committee for Dean of Veterinary Medicine

In mid-February, President Amy Gutmann and Interim Provost Peter Conn announced the formation of a search committee to advise on the selection of a successor to Dr. Alan Kelly, Dean of the School of Veterinary Medicine, who will step down as dean on October 1, 2005. The committee is now completing the first phase of its work, information gathering, including interviews with many members of the school community. Advertisements have been placed in JAVMA, Science, and Nature. The search firm is actively recruiting, seeking nominations and interest from leaders in veterinary medicine globally. Review of the candidates’ dossiers should begin in May.

Richard O. Davies, professor of physiology/animal biology, has agreed to serve as the committee’s chairperson. Serving with him are:

- Brenda Casper, professor of biology, SAS
- Christine Connelly, chair, School of Veterinary Medicine Board of Overseers
- Kenneth Drobatsz, professor of critical care, Clinical Studies–Philadelphia
- Steven Fluharty, professor of pharmacology, animal biology
- Christopher Hunter, associate professor of parasitology, pathobiology
- Sarah Kagan, Doris K. Schwartz Term Professor in Gerontological Nursing
- Laurie Landau, alumna, Board of Overseers and Chair of the Capital Campaign
- Susan Margulies, professor of bioengineering, SEAS
- Heidi Reesink, V’06
- Dean Richardson, Charles W. Raker Professor of Equine Surgery, Clinical Studies, New Bolton Center
- Daniel Zawisza, V’06

Nominations and applications should be sent in confidence, and preferably via e-mail, to pennvetmed@spencerstuart.com, or by mail to Paula Carabelli and Jennifer Bol, Spencer Stuart, 10900 Wilshire Blvd., Suite 800, Los Angeles, CA. 90024

An Interview with the Dean
(continued from page 5)

awareness of swine medicine as a career opportunity for our students. The swine unit has also greatly improved our relationship with the swine industry in Pennsylvania, and the faculty involved (Tom Parsons [V’86, director, Swine Research and Teaching Facility], and Gary Althouse [chief, Section of Reproduction]) have done an exceptional job. These are really important educational and agricultural contributions that enhance our chances for continued Commonwealth support.

HW: The other thing that astonished me as I was going through your messages in Bellwether was that you were certainly a builder. You have done more building and renovating than anybody else.

AMK: I had the money. If you have the money, you can do many things; if you don’t have it, you can’t accomplish much. I should say that the department chairs were enormously helpful in using the resources we had available in the most judicious and cost-effective way. We increased the departmental budgets, gave departments an incentive plan to get more research grants, and allowed them to carry funds over from one year to the next. This gave the chairs more autonomy and they leveraged their funds in a very effective way to accomplish their goals. No other veterinary school has a better group of department chairs.

HW: Your biggest project is the Teaching and Research Building. When you became dean, was such a new building on your mind? Or did you realize the need once you had been dean for a while?

AMK: Leon Weiss [professor of cell biology] suggested it to me early on, but I was apprehensive of going ahead as people had talked about a new teaching and research building for more than 30 years and it hadn’t happened. I didn’t want to get into something that couldn’t be accomplished. So I had an architect look at our present classrooms, Room 13 and Classroom C. He told me they were dreadful and that there was nothing I could do to improve them. So I didn’t have an alternative. Our teaching facilities are unacceptable and we needed new laboratory space.

HW: What will this building do for the School?

AMK: It is going to greatly improve the teaching and the learning environment for students. The building will provide new lecture rooms, conference rooms, study rooms, and a new library with an electronic classroom. Eventually, it will provide 18 new lab modules, which is probably enough for the School for some period of time. Of course, half of these will be occupied by the Medical School for four to six years. I think there will be some disappointment among the researchers when they realize that there will be only nine new lab modules available when the building opens. We need more but had to enter into this arrangement with the Medical School to get the building constructed. Early on, the University did not believe we could raise the funds to construct the new building by ourselves. We have surprised them! A great deal of the credit for doing as well as we have at fundraising must go to Mark Stuart and the Development Office; they have done an exceptional job and have shown how valuable a development office can be to the School.

HW: I understand that you wanted to put an infectious disease lab at New Bolton.
AMK: It hasn’t happened because it’s so expensive to build research labs. But I remain hopeful as we are exploring the possibility of putting modular laboratory units at NBC. They are far less costly than a permanent building. If we can put these up at New Bolton Center we could build an infectious disease research group out there that would be an enormous advantage for the School.

HW: Has the curriculum changed during your tenure as dean?

AMK: Jeff Wortman [V’69, Associate Dean] has worked very hard to effect a change, but we haven’t accomplished the major change I was looking for. Students spend far too much time in passive learning, sitting, listening to teachers talk. It is very difficult to change the curriculum, but I remain convinced that the students need to have a much more active educational experience and they need to learn the basic sciences in the context of clinical medicine. It provides the framework upon which students can integrate and remember a deluge of basic information. We all have to understand that our primary goal is to teach students the capacity of critical thinking in a clinical environment.

HW: Do you think the teaching of veterinary medicine needs to change? Do different subjects need to be taught, a different emphasis or delivery of veterinary medicine?

AMK: We have a good model in the core elective program; it gives us the flexibility to introduce new subjects when we need to. This is necessary as veterinary medicine is a very dynamic profession that keeps breaking into new fields. Nevertheless, I still believe that every student should get a broad introduction to comparative medicine, to understand the basic principles of how mammals, birds, fish are put together and function normally. This is core information that every student should have no matter what they end up doing. They shouldn’t specialize early on—that can come later in the curriculum via electives.

HW: We have specialization now. Will that lead to fragmentation, away from the general practitioner?

AMK: I think this is actually a boon for the practitioners because they can refer cases that they can’t handle to specialists. I think that this represents a huge advance in the quality of animal care. So, that’s going to continue, and if you look to the future, by 2050 the figures are that we will probably need nine new vet schools. Just looking at the growth of the population, the predictions are of a 50 percent increase in the population in the next 50 years. Almost all the growth will be in suburbia, more suburban sprawl. This means that the demand will be for companion-animal care, so there is going to be an enormous challenge for the profession to meet the needs of an expanding population demanding ever more sophisticated companion-animal care. This is why I was saying that the profession needs to be clear in what it is asking the public to support. It must be to advance infectious disease research, public health, food safety, etc. I think that support for companion-animal medicine has to come increasingly from the private sector, and I think this can be accomplished.

HW: Feed and drug companies and veterinary corporations?

AMK: Yes, corporations are going to increasingly control veterinary practice; clinical practice is going to change from being primarily a cottage industry.

The challenge for veterinary academia is figure out how it is going to provide the resources to support the equivalent of nine new schools. Presently 27 states provide the resources for veterinary education for the entire country. That’s a problem. Are nine more states going to pick up the tab for nine new schools of the quality of Penn? I shall be surprised.

Per student, veterinary education is probably the most expensive professional education there is: You have to provide hospital facilities and faculty to care for so many different species. In view of this, we are faced with the possibility of more offshore schools or schools in the U.S. that have very limited facilities, that rely almost entirely on tuition dollars, and that send students out to local practices for their clinical training. I worry about this, for it takes experience, patience, and dedication by a faculty to teach students to think critically in the clinical environment. Students need the experience of grand rounds, medicine rounds, pathology rounds conducted by qualified specialists—the sorts of things that do not happen in private practice—to adequately develop their clinical skills. Moreover, there seems little chance for clinical research in this type of school. That’s important to the quality of education. If you are going to have a school that has any vitality, you have to have a vibrant research program.

HW: Veterinary medicine has to think about that then.

AMK: There are real worries for the future. We need more companion-animal practitioners and lab-animal veterinarians; we need more researchers, we need more public health specialists. The support is going to have to come from different sources. It is a huge challenge, but I am sure we can succeed.

In closing, I should like to say how much fun it has been in the Dean’s Office for the past decade and how much I appreciate the support I have received from the faculty and so many cherished friends of the School.
2005 School of Veterinary Medicine Teaching Awards

The Veterinary Medical Student Government Excellence in Teaching Awards Ceremony was held Wednesday April 20, 2005, at the Irvine Auditorium, followed by a reception in the Hall of Flags in Houston Hall. An audience of 200 students, faculty, and staff applauded the award recipients, selected by the student body. A reception, complete with a chocolate fountain and strawberries, wine, and an array of light food, followed the presentation.

These awards recognize the importance of teaching and learning at the School.

Carl Norden-Pfizer Distinguished Teacher Award (selected by the entire student body): Dr. Alexia McKnight, assistant professor of radiology, New Bolton Center

Dean’s Award for Leadership in Basic Sciences: Dr. John Pehrson, head, Laboratories of Biochemistry, associate professor of biochemistry

Dean’s Award for Leadership in Clinical Science: Dr. Gary Smith, chief, Section of Epidemiology and Public Health

Class of 2006 Faculty Teaching Award: Dr. Charles Vite, chief, Section of Neurology, assistant professor of neurology, and Dr. Regina Turner, V’89, assistant professor, Section of Reproductive Studies

Class of 2007 Faculty Teaching Award: Dr. James Lok, associate professor of pathobiology

Class of 2008 Faculty Teaching Award: Dr. Narayan Avadhani, chair, Department of Animal Biology; Harriet Ellison Woodward Professor of Biochemistry

VMSG Commendation Award: Presented to an individual who has provided support, encouragement, and a caring, helping hand to the student body: Mattie Green, security guard, and Mary Croteau, O.R. nurse

Class of 2005 Teaching Awards:

Intern: Dr. William Culp, V’04, intern, Ryan Hospital

Resident: Dr. Sarah Dukti, surgery, New Bolton Center, and Dr. Stephen Mehler, surgery, Ryan Hospital

Veterinary Technician: Mary Croteau, O.R. nurse, and Tiffany Harris

Faculty: Dr. Chick Weisse and Dr. Dean Richardson

Other awards included:

Clinical Studies–Philadelphia:

Interns Award to a Resident for Outstanding Teaching:
Dr. Adrienne Bentley, surgery, Ryan Hospital

Residents Award to a Faculty Member for Outstanding Teaching:
Dr. Margret Casal, assistant professor of medical genetics

Jules and Lucy Silver Animal Bedside Manner Award: Dr. William Pullen, resident, medicine, Ryan Hospital

Harcum College Veterinary Technician Award:
Emily Zug and Donna Sisak

Gretchen Wolf Swartz Veterinary Technician Award: Jaime Miller

Senior Student Patient Care Awards:
Jennifer Cohen, Melissa Java, Zoe Ramagnano, and Sarah Reuss

Clinical Studies–New Bolton Center:

Dr. Boucher Award: Dr. Sarah Dukti

—Ashra Markowitz
By Greg Lester

By injecting a therapeutic gene directly into the brain, researchers have treated a naturally occurring genetic disease in cats. This is the first genetic disease affecting the central nervous system to be successfully treated in an animal larger than mice and rats. If this approach can be applied successfully to humans, say the researchers, it might one day treat an entire class of diseases called lysosomal storage disorders, which cause severe, sometimes fatal, disabilities in about one in 5,000 births. The members of the research team from the University of Pennsylvania School of Veterinary Medicine, the Children's Hospital of Philadelphia, and the U.S. Naval Academy published their findings in the March 2005 Annals of Neurology.

The animals involved in the study are born with a genetic disorder directly analogous to alpha-mannosidosis, or AMD, an inherited disease in humans that causes severe mental retardation and skeletal abnormalities. Cats with AMD do not live more than six months. Children born with the worst form of the disease rarely survive into their teens.

"Through gene therapy, we replace a ‘broken’ gene responsible for alpha-mannosidase with the correct, functioning copy, to dramatic results," said John H. Wolfe, professor of pathology and medical genetics at the School of Veterinary Medicine and a neurology researcher at Children's Hospital. "The treated cats were markedly improved compared to diseased cats, with better balance and muscle control and fewer tremors."

Although the disease itself is rare, AMD is one of about 50 lysosomal storage diseases, a class of diseases that accounts for a significant portion of the instances of mental retardation in children. Other examples include Tay-Sachs disease, Hunter disease, and Pompe disease. In a lysosomal storage disease, cellular debris accumulates within storage areas of cells called lysosomes. In the case of AMD, children are born with a faulty version of the gene for an enzyme called lysosomal alpha-mannosidase, or LAMAN.

"Shortly after birth, brain tissue is still physically maturing, which means that there is a particularly important window of opportunity for gene therapy in infants," Dr. Wolfe said. "In our study, we could see that gene therapy used during this particular time led to a restoration of damaged neurons, even though the lesions that represent the disease were already extensive."

According to Charles H. Vite, lead author of the paper and assistant professor of veterinary neurology at Penn, the treated cats not only demonstrated dramatic clinical improvement, but MRI also revealed that white matter tracks, myelin, in the brain had been largely restored.

"As we move toward the clinical use of this therapy in humans, we must develop and utilize noninvasive methods to monitor the regression of the disease following treatment," Dr. Vite said. "The ability to monitor the improvement in brain myelination in alpha-mannosidosis using imaging allows the clinician to see improvement in brain pathology without the need for brain biopsy."

The large-animal study also demonstrated that only a limited number of injections are necessary to introduce the working LAMAN gene, one of the first steps that will prepare this particular gene therapy for practical use in humans. The gene is transported via a neutralized virus that "infects" cells with the functioning gene. Since the blood-brain barrier would block the virus carrying the gene if it were circulating in the bloodstream, the researchers injected the virus directly into the brain.

"The ability to monitor the improvement in brain myelination in alpha-mannosidosis using imaging allows the clinician to see improvement in brain pathology without the need for brain biopsy."

According to Wolfe and Vite, researchers involved in the study include Joseph G. McGowan; Sumit N. Niogi; Marco A. Passini; Kenneth J. Drobatz, associate professor of critical care at the Ryan Hospital; and Mark E. Haskins, V’69, professor of pathology and medical genetics.

Walter Goodman and Skye Terriers:
“Love at First Sight”

In 1936, 14-year-old Walter Flato Goodman was vacationing with his family in Paris when he saw his first Skye terrier, and it was love at first sight. When the Goodmans returned to America, a Skye puppy was in tow. Thus Walter’s future as a one of the world’s most prominent breeder-owner-handlers of Skyes was born.

Since that day, Walter and his terriers have won 99 Best in Show awards and 300 Terrier Group First awards. He is a member of the Westbury Kennel Association, the Westminster Kennel Club, the Palm Beach County Dog Fanciers Association, and The Kennel Club (of England). Walter is President and Chief Steward of the Montgomery County Kennel Club in Pennsylvania, which holds the world’s largest annual terrier show. As the Delegate of the Skye Terrier Club of America, he is a member of the Board of Directors of the American Kennel Club. Since 1975, Walter has been approved to judge Best in Show, the Terrier Group, and Junior Showmanship competitions.

Walter has long supported the School; he joined its Board of Overseers in 1986, and, with his associate, Robert A. Flanders, established two irrevocable trusts at Penn. In fall 2003, the School honored Walter by naming its research center the Walter Flato Goodman Center for Comparative Medicine and Genetics, dedicated to clinical and basic research for companion animals with diseases that parallel those in humans.

"The brain of the cat is much closer in size to the human infant brain compared to mice. Thus we think that it may be possible to achieve similar results in humans with as few as 20 to 30 injections in each of the two hemispheres of the brain," Dr. Wolfe said. "We believe, however, we can further limit the number of injections by the use of strong promoters that could increase the amount of enzyme that comes from corrected cells."

Although encouraged by their findings, the researchers note that any clinical trials in humans might be years in the future.

Video comparing a cat with AMD to one that had been given gene therapy is available at www.mrw.interscience.wiley.com/suppmat/0364-5134/suppmat/2005/57/v57.3.355.htm.

Funding for this research was provided by the National Institutes of Health. In addition to Drs. Wolfe and Vite, researchers involved in the study include Joseph G. McGowan; Sumit N. Niogi; Marco A. Passini; Kenneth J. Drobatz, associate professor of critical care at the Ryan Hospital; and Mark E. Haskins, V’69, professor of pathology and medical genetics.■
New Faculty Member in Pathobiology

Lisa Murphy, V’97, was recently appointed to the position of assistant professor of toxicology in the Department of Pathobiology at the School. Dr. Murphy received her B.S. in biological sciences from Stanford University in 1992 and practiced small-animal medicine in New Jersey before joining the ASPCA Animal Poison Control Center in Urbana, IL in 2000. There she held the titles of consulting veterinarian in clinical toxicology and manager of biosurveillance and emergency response programs. In October 2003, she became a diplomate of the American Board of Toxicology. From February 2004 through March 2005, Dr. Murphy worked as the area emergency coordinator for the USDA, APHIS, and Veterinary Services in Sutton, MA., managing the New England states. In addition to emergency preparedness and disaster response, Dr. Murphy’s special areas of interest include exotic and aquatic animal medicine. She is a member of the AVMA’s Veterinary Medical Assistance Team.

NBC Professors Appointed to Endowed Chairs

The School of Veterinary Medicine recently approved the appointment of three professors to endowed chairs.

Dr. Ina Dobrinski, associate professor of reproduction, has been appointed to the Marion Dilly and David George Jones Chair in Animal Reproduction. Dr. Dobrinski holds a veterinary degree from the School of Veterinary Medicine in Hanover, Germany; an M.V.Sc. degree from the University of Saskatchewan, Canada; and a Ph.D. in reproduction from Cornell University, and is board certified by the American College of Theriogenologists. She is also the director of the Center for Animal Transgenesis and Germ Cell Research. Research in her laboratory is focused on male germ-cell biology in domestic animals and non-human primates. One aspect of this work is the exploration of germ-line stem-cell biology to develop a new approach to transgenesis in domestic animals through the manipulation of the male germ line.

Lester Khoo, V’90, associate professor of aquatic animal medicine, has been appointed the Robert R. Marshak Term Professorship of Aquatic Animal Medicine and Pathology. Born in Singapore, Lester Khoo left home in 1982 to begin his university studies abroad. In 1996, he completed training in a dual Ph.D. residency program in aquatic immunology and anatomic pathology at North Carolina State University. He then served as assistant professor at Mississippi State University College of Veterinary Medicine and worked in the Fish Diagnostic Laboratory in Stoneville, Miss., which services the channel catfish farming industry in the delta. Following his appointment in 2000 as director of the Fish Diagnostic Laboratory in the Thad Cochran National Warmwater Aquaculture Center, he is currently the director of the AQUAVET® program.

Dr. Michaela Kristula, associate professor of medicine, has been appointed the new Frances Cheney Glover Director of Field Service Program. Dr. Kristula was graduated from the Virginia Maryland Regional College of Veterinary Medicine in 1984. She completed an internship and residency in Field Service at Penn. In 1990 she received a master’s degree from Penn in comparative medical sciences, with an emphasis in epidemiology. Dr. Kristula joined the faculty in 1992, and is currently the chief of Field Service. Her main areas of interest are dairy production medicine, bedding materials to prevent mastitis, and reproductive synchronization programs for dairy cows.
A New and Improved PVMA

By Susan I. Finkelstein

Established by 22 veterinarians just a year before the School’s own founding in 1884, the Pennsylvania Veterinary Medical Association (PVMA) today serves more than 1,600 Pennsylvania veterinarians, 500 veterinary students, and thousands of veterinary clients and patients. The Commonwealth’s only professional membership organization exclusively for veterinary medicine, PVMA “is committed to advancing animal welfare and human health while ensuring the vitality of the profession” (as stated in keystone veterinarian, its quarterly magazine). Its members come from all walks of veterinary life: small-animal, large-animal, exotic, bovine, and equine practitioners, as well as those in research and academia.

PVMA is affiliated with 18 local veterinary medical associations and the internationally recognized American Veterinary Medical Association. Members enjoy numerous benefits, including continuing education opportunities. But there is a more important reason for joining, as PVMA president Timothy J. Ireland, V’90, writes in the latest issue of keystone veterinarian. “You need PVMA to help protect your livelihood, and PVMA needs you to help monitor local ordinances and to strengthen our voice in Harrisburg. We need a network of members willing to talk to their elected officials and establish relationships so we have contacts in place in times of need.”

Needless to say, because Penn has the only veterinary school in Pennsylvania, the PVMA has a special connection to School staff and alumni, many of whom are members and/or serve on the executive committee. The School is especially proud that Joan Hendricks, V’79, Henry and Corinne R. Bower Professor of Animal Medicine, was elected to the vice presidency of the PVMA last October (effective January 1, 2005). Because of the PVMA’s unique leadership structure, next year Dr. Hendricks will become president-elect, and then president the following year. “Once you’re elected to V.P., you’re on the train,” Dr. Hendricks explains. “It’s like a triumvirate, where the V.P., president-elect, and current president all work together. Also, the immediate past president stays involved. It’s a way of providing continuity.”

Recently, PVMA presidents have addressed issues particularly important to them, both personally and professionally: Michael Moyer, V’90, immediate past president, was actively involved in shelter medicine and the feral-cat overpopulation problem; Dr. Ireland is chair of the PVMA’s Animal Law Taskforce. Of increasing relevance to veterinarians, these topics may slip under the radar during the routines of daily practice.

Dr. Hendricks is no exception. “Those are all areas that I find interesting, but I wasn’t thinking about any them in my day-to-day,” she says. “I think most practitioners think about how to have a good practice, have a good life. And yet there are important issues that vets should be involved in. . . . You can make a real difference by being in organized veterinary medicine, like the PVMA. The PVMA itself, because the last several presidents have taken so many actions that have made a real difference, is beginning to raise the profile of these issues to the point where the public has a reason to care.”

So what does Dr. Hendricks hope to accomplish during her presidency? “If I had to pick my ‘agenda item;’ it might be to connect veterinary medicine to the urban centers, and vice versa in small or big ways. . . . We’re the only vet school in a major metropolitan setting, so while most vet schools don’t have the option of training their students in a setting where that’s an obvious thing to do, we are. And we could do so much more.

“One thing I would definitely want to do as president is to make sure that anyone in the School who is eligible is a member of PVMA. I think that’s really important. But along with that, every eligible person in the Commonwealth should be a member, because then the power of the association becomes much, much greater. Then the PVMA can say, ‘We speak for all of veterinary medicine [in the Commonwealth]’; . . . The things the School is trying to do for veterinary medicine and what the PVMA is trying to do as the voice of veterinary medicine are complementary.”

Traditionally, many women, younger graduates, and students have not thought much about being part of organized veterinary medicine. In the past, the group’s image was that its membership was predominantly older males, and did not reflect the growing diversity of the veterinary profession. Certainly this problem has been recognized and steps are being taken to remedy it, at all levels of organized veterinary medicine. “The problem is a generational issue, so the PVMA is reaching out to new graduates. It was seen as a club in the past. That’s not what this organization is now. It exists so that we can really try to change things. How great would it be if we could have a shelter medicine training program that’s part of the School, and as part of that, we could do research on what makes the biggest difference, what promotes responsible pet ownership?”

Today’s PVMA, with professional support, can help create, shape, and respond to legislation and regulations that directly affect the practice of veterinary medicine in Pennsylvania. By fostering stronger relations with the media, it also can help maintain the public’s well-deserved confidence in veterinary medicine. Here is a place where all Pennsylvania veterinarians together can form a collective, powerful voice. Truly, the PVMA represents and serves its members as no other organization can.

Joan Hendricks, V’79
Students and their families assembled at the Zellerbach Theatre of the Annenberg Center on May 16 for the 120th Commencement Exercises of the School.

With the Class of 2005, Penn has graduated 6,158 veterinarians, 2,059 women and 4,099 men. The Class of 2005 numbered 105 and is composed of 72 women and 33 men.

Dean Alan M. Kelly welcomed everyone and introduced Christine C. Connelly, chairperson, School of Veterinary Medicine Board of Overseers. Calling her a “model of excellence,” Dean Kelly awarded her the silver Bellwether Medal, which is the highest recognition given by the School.

The commencement address was given by Edwin Sayres, president and chief executive officer of the American Society for the Prevention of Cruelty to Animals. Mr. Sayres received the bronze Bellwether Medal for Distinguished Leadership for his compelling record of achievement in animal welfare.

In the presentation of diplomas and hooding, Dr. Kelly was assisted by Dr. Gary Smith, Dean’s Awardee for Leadership in Clinical Science Education; Dr. John R. Pehrson, Dean’s Awardee for Leadership in Basic Science Education; and Associate Dean Jeffrey A. Wortman, V’69. Marshall was Dr. Charles D. Newton, deputy associate dean.

Class President Michelle Elizabeth Rosero, V’05, presented comments and received the Class Flag from James V. Stewart, V’68, president of the Veterinary Medical Alumni Society. Dr. Kelly then awarded the prizes to the graduates, assisted by Dr. Wortman.

The Veterinarian’s Oath was administered by Timothy J. Ireland, V’90, president of the Pennsylvania Veterinary Medical Association.

For more Commencement photos, see alumni.vet.upenn.edu/commencement 2005photos.htm.
Class of 2005

Kimberly Anne Alexander
Elissa Aaron Allen
Amanda Louise Andracaavage
Nicole Marie Arms
Nina Elizabeth Atwood
Emily Corinna Beden
Adam James Behrens
Joseph Francis Bloom
Christopher Howard Blum
Joseph Thomas Borthwick
Amanda Marie Bowden
Jennifer Helen Brownhill
Meghann Kathryn Brumsted
Christopher William Brunner
Breanna Lee Buxton
Morgan Elizabeth Callahan-Javitz
Janee Olivia Carr
Lynn Castiglia
Lin-Yu Diana Chang
Kristin Anne Chester
Andrew John Church
Rachel Erin Cianciolo
Derek Duane Cissell
Daniel John Clayton
Jennifer Marks Cohen
Mary Kathleen Coughlin
Alexandra Elena Daley
Anthony Richard Dallatore
Stephanie Danielle DiFrischia
Heather Beth DiGiacomo
Ian Jay Driben
Amy Cleveland Durham
Stacey L. Dworkin
Ashlea Beth Erk
Karlin Henry Erk
Lauren Elisha Feldman
Joseph Fent III
Hannah Latham Flynn
Laurel Anne Frydenborg
Christopher Des Garg
Keira Johanna Geithman
Douglas Richard Gilson
Rachel Michelle Glaser
Elizabeth Eva Goedcke
Sabrina Hanahoe Goscilo
Sarah Katharine Portal Graboys
Nora Selby Grenager
Janine Marie Haney
Nicole Rose Henn
Mary Ellen Hennessy
Ann Lenore Hilton
Alice Ai-Tru Huang
Melissa Ann Java
Abby Harding Jones
Lake Taylor Jones
Robert Patrick Juliano, Jr.
Matthew Jason Jurikson
Jessica Amanda Kaleta
Zaheda Khan
Geraldine Ann Kilkelly
Justin Daniel Kontir
Alexandra Cole Koprowski
Nathaniel Koval
Daniel Philip Laucks
Chung Min Lee
Rebecca Anne Linke
Alison Beth Loupos
Jennifer Ann Luff
Amy Kathleen Martins
Lauren R. May
Carolyn Patricia McKee
Laura Danielle McNeils
Hilary April Metz
Jennifer Shannon Moll
Brooke Ellen Moore
Timothy Lyle Edward Mosebey
Tracy P. Moussa
Audra Dorothy Olsen
Brian John Orr
Garret Evan Pachtinger
Brian Scott Palmeiro
Elizabeth Sarah Perone
Michael Steven Pierdon
Zoe Margaret Ramagnano
Diana Claire Rawstrom
Nancy Kathleen Reilly
Matthew Gerald Reimert
Sara Jeanne Reissenweben
Sarah Margaret Reuss
James Lawrence Rhodes
Ellen Joy Rickey
Michelle Elizabeth Rosero
John Rossii
Rosemary Vital Santos
John Edward Schaible, III
Ellyn Margaret Shea
David Scott Sherer
Aimee Simpson
Sacha Rae Snyder
David Lewis Taetle
Rebecca Kathleen Taylor
Erica Lesley Tramuta-Drobnis
Heather Kathleen Westfall
Fred Alan Winerind
Tracy Hyer Wynder
Billie Jo Zeigler

December 22, 2004
Alfredo J. Geigel-Ortiz

Award Recipients

Leonard Pearson Prize
Garret Evan Pachtinger

J.B. Lippincott Prize
Nina Elizabeth Atwood

1930 Class Prize in Surgery
Amanda Marie Bowden

Auxiliary to the American Veterinary Medical Association Prize
Sarah Margaret Reuss

Faculty/Student Chapter, AVMA Prize
Janee Olivia Carr

Phi Zeta Award
Fred Alan Winerind

American Animal Hospital Association Award
Hannah Latham Flynn

American Association of Feline Practitioners Award
Elizabeth Eva Goedcke

American College of Veterinary Radiology Award
Justin Daniel Kontir

American College of Veterinary Surgeons Prizes
Small Animal Surgery Prize
Mary Kathleen Coughlin
Large Animal Surgery Prize
Sarah Katharine Portal Graboys

BI-Vetmedica Swine Medicine Awards
Meghann Kathryn Brumsted
Joseph Fent III
Michael Steven Pierdon

Evingerham Prize for Cardiology
David Scott Sherer

Field Service Prize
Kristin Anne Chester

The Peter Francis Anatomy Award
Nina Elizabeth Atwood

Bill’s Award
Rebecca Kathleen Taylor

James Hazlitt Jones Prize in Biochemistry
Nina Elizabeth Atwood

Large Animal Medicine Prize
Sarah Katharine Portal Graboys

Large Animal Surgery Prize
Jennifer Marks Cohen

Merck Awards
Small Animal Award
Matthew Gerald Reimert
Large Animal Award
Billie Jo Zeigler

1956 Class Award for Achievement in Pathology
Jennifer Ann Luff

George M. Palmer Prize
Nora Selby Grenager

Pfizer Animal Health Small Animal Clinical Proficiency Award
Nicole Marie Arms

Pfizer Swine Proficiency Award
Joseph Fent III

Pfizer Veterinary Special Team Award in Dentistry
Garret Evan Pachtinger

Pfizer Veterinary Special Team Award in Dermatology
Brian Scott Palmeiro

Charles E. Reid Sports Medicine and Imaging Award
Derek Duane Cissell

Lynn Sammons Food Animal Award
Jennifer Shannon Moll

Schering-Plough Award for Swine Production Medicine
Meghann Kathryn Brumsted

VECCS Award for Proficiency in Veterinary Emergency and Critical Care Medicine
Melissa Ann Java

Morris L. Ziskind Prize in Food Animal Medicine
Michael Steven Pierdon

Morris L. Ziskind Prize in Public Health
Lauren R. May
Dr. Deborah Silverstein was promoted to assistant professor of critical care, Department of Clinical Studies, effective July 1, 2005.

Dr. Andrew Wood, emeritus professor of radiology, has recently been awarded the degree of Doctor of Veterinary Science by the University of Melbourne in Australia. The degree was awarded following examination of a thesis containing substantial published contributions to veterinary science. Dr. Wood also recently presented a seminar on results of current work on an NIH grant to the School of Veterinary Medicine, University of Helsinki, Finland.

On April 8, Dr. Jeanne Budgin, house officer, Department of Dermatology, received an American College of Veterinary Dermatology Residents Research Award: an Honorable Mention in Basic Science for her presentation, “Biological effects of bexarotene in cutaneous T-cell lymphoma,” at the North American Veterinary Dermatology Forum in Sarasota, Fla. The article, which appeared in the March 2005 issue of Archives of Dermatology, was coauthored by Dr. Budgin, S. K. Richardson, S. B. Newton, M. Wysocka, M. H. Zaki, B. Benoit, and A. H. Rook.

Bruce Freedman, V’87, assistant professor of pathobiology, received a five-year RO1 grant from the NIH for studies entitled “Novel mechanisms of calcium signaling in B lymphocytes.”

Gustavo Aguirre, V’68, delivered the Litwack Lecture (“Making the blind see and the lame walk with gene therapy”) and the Phi Zeta Day Lecture (“From DNA to darkness”) at North Carolina State University College of Veterinary Medicine, March 18. He also spoke on “Genetic and environmental modifiers of inherited retinal degeneration” at the University of Oklahoma Health Science Center, April 14.

Hannah Galantino-Homer, V’93, postdoctoral fellow, presented a poster, “Beta-cyclodextrin plus cholesterol protects porcine sperm from the effects of cold shock,” for which she received a Trainee Merit Award, at the 30th Annual Meeting of the American Society of Andrology in April in Seattle.

Dr. Ina Dobrinsky, Marion Dilley and David George Jones Professor in Animal Reproduction, gave an invited presentation (“Germ cell transplantation—where will this technology go?”) at the 30th Annual Meeting of the American Society for Andrology on April 5 in Seattle.

Dr. Bernd Driessen, associate professor of anesthesia, service chief of large animal anesthesia, gave the following presentations: “Intravenous lidocaine infusion in balanced anesthesia for abdominal surgery” at the XVI International Meeting on Equine Medicine in conjunction with the EQUITANA Equine Sports Fair, Essen, Germany, March 4–6; and “Intravenous lidocaine infusion in horses undergoing abdominal surgery,” an invited talk at the University of Mississippi, College of Veterinary Medicine, April 13.

At the 79th Clinical and Scientific Congress of the International Anesthesia Research Society, in Honolulu, March 11–15, the presentation “Pharmacokinetics of hemoglobin-based oxygen carrier hemoglobin glutamer-200 bovine in the horse” was given by: Lawrence R. Soma, V’57, professor of anesthesia and clinical pharmacology; Dr. Fuju Guan, post-doctorate; Dr. Cornelius Uboh, adjunct assistant professor of pharmacy and pharmacology; Mr. Peter Moate, research coordinator; Dr. Ray Boston, professor of applied biomathematics; M. Agr; and Dr. Driessen.

Dr. Victoria Johnson, lecturer in radiology; and Dr. Jennifer Kinns, radiology resident, attended the bi-annual meeting of the British Division of the European Association of Veterinary Diagnostic Imaging on April 6 in Birmingham, U.K., where Dr. Kinns presented “The use of computed tomography in spinal trauma.” Drs. Johnson and Kinns also attended the annual congress of the British Small Animal Veterinary Association, April 7–10 in Birmingham, where Dr. Johnson presented “MRI of the cisterna chilii—a preliminary report.”

Dr. Adrian Morrison, professor emeritus of behavioral neuroscience, participated in a focus group on March 18–19 in Madrid for the Science and Society Programme of the European Molecular Biology Organization, “The importance of the use of animals in scientific research.”

Dr. Cynthia Otto, associate professor of critical care, lectured at the Penn Annual Conference in Philadelphia in March.

Meg Sleeper, V’93, will give a presentation on “Further characterization of chloride channel myotonia congenita and juvenile dilated cardiomyopathy in dogs” in Nantes, France in May. The paper was coauthored by Mark Haskins, V’69, professor of pathology and medical genetics; Ms. Kathy O’Donnell, animal research specialist; Ms. Karyn Cullen, animal research specialist; Dr. Anne Traas, resident in medical genetics; Dr. Paula Henthorn, associate professor of medical genetics; Dr. Charles Vite, assistant professor of neurology; J. Milszewski; D. Aleman; P. Werner; and Dr. Sleeper.

Dr. Philipp Mayhew, lecturer in the Section of Small Animal Surgery, Department of Clinical Studies—Philadelphia, was selected to receive the American Association of Veterinary Clinicians Residency Award.

Dr. James Serpell, Marie A. Moore Professor of Animal Welfare, has been awarded a grant of $170,000 over two years by a consortium of guide/assistance dog schools (Canine Companions for Independence, Guide Dogs for the Blind, Guiding Eyes for the Blind, Leader Dogs for the Blind, and The Seeing Eye) to develop a series of standardized measures of assistance dog behavior and temperament.
Animal Crackers

Of “Ligers” and “Tigons”

A “liger” is the result of breeding a male lion with a female tiger. It often has a mane like a lion, and stripes and spots. The spots are inherited from its lion father, even though adult lions are not visibly spotted. Ligers make the sound of both a lion and a tiger, although their roar tends to sound more like a lion’s.

The liger is probably the largest cat in the world, usually bigger than either of its parent species. At an average weight of 900 pounds, ligers can be twice the size of male Siberian tigers, the largest non-extinct naturally occurring member of the cat family.

Rarely, a “tigon” will be born to a tiger father and a lion mother. Tigons look similar to ligers, but are not nearly as large. The lifespans of ligers and tigons, like most hybrids, are shorter than those of naturally occurring species. All know instances of tiger–lion interbreeding have been in captivity: the two species naturally overlap only near the Gir Preserve in Bangladesh, and even then the big cats would be unlikely to mingle.

AKC Registration Numbers

The Labrador retriever, for the fifteenth consecutive year, is the most popular breed of dog registered with the American Kennel Club (AKC). In 2004, 146,692 Labradors were registered, followed by the English cocker spaniel (45), and harrier (53).

The next eight breeds are: English springer spaniel, German shepherd, Staffordshire bull terrier, Cavalier King Charles spaniel, golden retriever, West Highland white terrier, boxer, and border terrier.

Errata

Dr. Bernd Driessen, chief of Anesthesia Service at New Bolton Center, was incorrectly identified in Bellwether 61.

Dr. Pamela Wilkins was not correctly identified as the presenter of a research abstract, “Measurement of endothelin-1 concentration in oxygen dependent and non-oxygen dependent clone calves, their surrogate dams and their fetal fluids, at birth,” at the Veterinary Emergency and Critical Care Society Annual Meeting, San Diego, September 2004. Also, Dr. Wilkins’s research abstract, “Treatment of a premature elephant calf,” appeared in the Proceedings of the International Elephant Research Symposium, Dallas, December 2004, and she presented the following papers: “Gastric and duodenal ulceration in the critical neonate,” “So what now? Problems commonly seen in foals following dystocia,” and “It’s not over yet. The bleeding mare: Case presentations and discussion” at the International Veterinary Emergency and Critical Care Society, San Diego, September 2004; and “Treatment of a premature Asian elephant calf” at the International Elephant Research Symposium, Fort Worth, Texas, December 2004.

All about Cats

The Cat Fanciers’ Association (CFA), through Harper Resource, has published The Complete Cat Book, edited by Mordecai Siegal. Patterned after the AKC’s Complete Dog Book, it is a comprehensive volume on all things pertaining to owning, breeding, and showing cats. The book provides descriptions, personality traits, grooming requirements, origins, and histories, as well as CFA show standards for the 41 breeds recognized by the organization. There are black-and-white and color photographs of each breed of cat and numerous drawings of the various coat patterns.

While the book discusses showing and breeding in detail, there are extensive sections on selecting a cat as a companion, feline behavior, nutrition, and a home veterinary guide. The latter two sections could be separate books; they are quite inclusive.

There is also a history of the CFA and of cat shows in this country. The first major cat show was held in 1895 at Madison Square Garden, with 176 cats entered. The first cat club was founded in 1899 in Chicago, and the CFA came into being in 1906.

The Complete Cat Book is not just for the cat breeder and exhibitor, it is a wonderful resource for anyone who wants to learn about cats. The book’s retail price is $29.95.
# AAEP Guidelines for Vaccination of Horses

The schedule below is a suggested vaccination schedule provided by the American Association of Equine Practitioners, and is based on generally accepted veterinary practices. These guidelines are neither regulations nor directives for all situations and should not be interpreted as such. It is the responsibility of attending veterinarians, through an appropriate veterinarian-client-patient relationship, to utilize this information coupled with available products to determine the best professional care for their patients. For complete discussion of vaccination guidelines, please see the AAEP resource guide “Guidelines for Vaccination of Horses” (the guide can be obtained by contacting the AAEP at <aaepoffice@aaep.org>.

<table>
<thead>
<tr>
<th>Disease/vaccine</th>
<th>Foals/weanlings</th>
<th>Yearlings</th>
<th>Performance Horses</th>
<th>Pleasure Horses</th>
<th>Broodmares</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>West Nile Virus</strong></td>
<td>First dose: 3 to 4 months. Second dose: 1 month later (plus 3rd dose at 6 months in endemic areas).</td>
<td>Annual booster, prior to expected risk. Vaccinate semi-annually or more frequently (every 4 months), depending on risk.</td>
<td>Annual booster, prior to expected risk. Vaccinate semi-annually or more frequently (every 4 months), depending on risk.</td>
<td>Annual booster, prior to expected risk. Vaccinate semi-annually or more frequently (every 4 months), depending on risk.</td>
<td>Annual. 4 to 6 weeks preparum (see full text in guidelines).</td>
<td>Annual booster is after primary series. In endemic areas, booster as required or warranted due to local conditions conducive to disease risk. Vaccinate semi-annually or more frequently (every 4 months), depending on risk.</td>
</tr>
<tr>
<td><strong>Tetanus toxoid</strong></td>
<td>From nonvaccinated mare: first dose: 3 to 4 months; second dose: 4 to 5 months. From vaccinated mare: first dose: 6 months; second dose: 7 months; third dose: 8 to 9 months.</td>
<td>Annual.</td>
<td>Annual.</td>
<td>Annual.</td>
<td>Annual, 4 to 6 weeks prepartum.</td>
<td>Booster at time of penetrating injury or surgery if last dose not administered within 6 months.</td>
</tr>
<tr>
<td><strong>Encephalomyelitis (EEE, WEE, VEE)</strong></td>
<td>EEE (in high-risk areas): first dose: 3 to 4 months; second dose: 4 to 5 months; third dose: 5 to 6 months.</td>
<td>Annual, spring.</td>
<td>Annual, spring.</td>
<td>Annual, spring.</td>
<td>Annual, 4 to 6 weeks prepartum.</td>
<td>In endemic areas booster EEE and WEE every 6 months; VEE only needed when threat of exposure; VEE may only be available as a combination vaccine with EEE and WEE.</td>
</tr>
<tr>
<td><strong>Influenza</strong></td>
<td>Inactivated injectable: From nonvaccinated mare: first dose: 6 months; second dose: 7 months; third dose: 8 months. Then at 3-month intervals. From vaccinated mare: first dose: 9 months; second dose: 10 months; third dose: 11 to 12 months. Then at 3-month intervals.</td>
<td>Every 3 to 4 months.</td>
<td>Every 3 to 4 months.</td>
<td>Annual with added boosters prior to likely exposure.</td>
<td>At least semiannually, with 1 booster 4 to 6 weeks prepartum.</td>
<td>A series of at least 3 doses is recommended for primary immunization of foals. Not recommended for pregnant mares until data available. Use inactivated vaccine for prepartum booster. If first dose is administered to foals less than 11 months of age, administer 2nd dose at or after 11 months of age.</td>
</tr>
<tr>
<td><strong>Rhinopneumonitis (EHV-1 and EHV-4)</strong></td>
<td>First dose: 4 to 6 months; second dose 5 to 7 months; third dose: 6 to 8 months. Then at 3-month intervals.</td>
<td>Booster every 3 to 4 months up to annually.</td>
<td>Booster every 3 to 4 months up to annually.</td>
<td>Optional: semiannual if elected.</td>
<td>Fifth, seventh, ninth month of gestation (inactivated EHV-1 vaccine); optional dose at third month of gestation.</td>
<td>Vaccination of mares before breeding and 4 to 6 weeks prepartum is suggested. Breeding stallions should be vaccinated before the breeding season and semiannually.</td>
</tr>
<tr>
<td>Disease/vaccine</td>
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<tr>
<td>Strangles</td>
<td>Injectable: first dose: 4 to 6 months; second dose: 5 to 7 months; third dose: 7 to 8 months (depending on the product used); fourth dose: 12 months.</td>
<td>Semiannual.</td>
<td>Optional: semiannual if risk is high.</td>
<td>Optional: semiannual if risk is high.</td>
<td>Semiannual with 1 dose of inactivated M-protein vaccine 4 to 6 weeks prepartum.</td>
<td>Vaccines containing M-protein extract may be less reactive than whole-cell vaccines. Use when endemic conditions exist or risk is high. Foals as young as 6 weeks of age may safely receive the intranasal product. A third dose should be administered 2 to 4 weeks prior to weaning.</td>
</tr>
<tr>
<td>Potomac Horse Fever</td>
<td>First dose: 5 to 6 months; second dose: 6 to 7 months.</td>
<td>Semiannual.</td>
<td>Semiannual.</td>
<td>Semiannual.</td>
<td>Semiannual with 1 dose 4 to 6 weeks prepartum.</td>
<td>Booster during May to June in endemic areas.</td>
</tr>
<tr>
<td>Botulism</td>
<td>Foal from vaccinated mare: 3 dose series of toxoid at 30-day intervals starting at 2 to 3 months of age. Foal from non-vaccinated mare: see comments.</td>
<td>Consult your veterinarian.</td>
<td>Consult your veterinarian.</td>
<td>Consult your veterinarian.</td>
<td>Initial 3-dose series at 30-day intervals with last dose 4 to 6 weeks prepartum.</td>
<td>Only in endemic areas. A third dose administered 4 to 6 weeks after the second dose may improve the response of foals to primary immunization. Feal from non-vaccinated mare may benefit from: 1) toxoid at 2, 4, and 8 weeks of age; 2) transfusion of plasma from vaccinated horse; or 3) antitoxin. Efficacy needs further study.</td>
</tr>
<tr>
<td>Equine Viral Arteritis</td>
<td>Intact colts intended to be breeding stallions: one dose at 6 to 12 months of age.</td>
<td>Annual for colts intended to be breeding stallions.</td>
<td>Annual for colts intended to be breeding stallions.</td>
<td>Annual for colts intended to be breeding stallions.</td>
<td>Annual for sero-negative, open mares before breeding to carrier stallions; isolate mares for 21 days after breeding to carrier stallion.</td>
<td>Annual for breeding stallions and teasers, 28 days before start of breeding season; virus may be shed in semen for up to 21 days. Vaccinated mares do not develop clinical signs even though they become infected and may shed virus for a short time.</td>
</tr>
<tr>
<td>Rotavirus A</td>
<td>Little value to vaccinate foal because insufficient time to develop antibodies to protect during susceptible age.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Vaccinate mares at 8, 9, and 10 months of gestation, each pregnancy.</td>
<td>Check concentrations of immunoglobulins in foal to be assured that there is no failure of passive transfer.</td>
</tr>
</tbody>
</table>

*As with all medications, the label and product insert should be read before administration of all vaccines. Schedules for stallions should be consistent with the vaccination program of the adult horse population on the farm and modified according to risk. EEE = eastern equine encephalomyelitis, WEE = western equine encephalomyelitis, VEE = Venezuelan equine encephalomyelitis, EHV-1 = equine herpes virus type.
As part of a divorce settlement, a judge orders a Colorado man to pay $140 per month in “pet support” for the family dog.

In Seattle, a judge awards $45,000 to the woman whose 12-year-old cat was mauled to death by a neighbor’s dog. The amount included $30,000 for the pet’s special value, and $15,000 for emotional distress. The cat’s owner said her animal’s death left her with sleep disturbances, panic attacks, and depression.

In Nashville, the owners of “Gizmo,” a 16-year-old Yorkshire terrier killed last year when he was allegedly kicked like a football, are asking a civil court to award them $200,000 in damages. After the incident occurred, local police arrested two men, who were charged with cruelty to animals (a misdemeanor) and felony vandalism, a charge that could carry two to 12 years in prison.

These are actual cases, only a few of hundreds that have surfaced in the American and Canadian legal systems in the past several years. An indication that the status of animals—particular “companion animals”—is changing, these scenarios are increasingly common as society ponders new evidence regarding the sentience of animals and their place in a human world.

Modern research has shown that non-human mammals share similar emotive and cognitive characteristics with humans, and are remarkably like us neurologically and genetically. But it’s not just our similar biology that binds us so closely to dogs (and to other pets, for that matter). We have a long history together: Domesticated dogs have been sharing their lives with people for more than 12,000 years, domesticated cats for about 4,500 years. According to a 2003–2004 survey of the American Pet Products Manufacturers Association, 63 percent of U.S. households (about 69 million homes) own a pet, and 45 percent own more than one. The New York Times recently estimated that an average dog owner will spend approximately $11,500 on the animal over the span of its life. Not surprisingly, the veterinary profession experienced its own unprecedented boom in the last 20 years as well: The number of practitioners in the U.S. increased from 32,000 in 1980 to a projected 70,384 in 2005 (according to the Association of American Veterinary Colleges).

Pets as property

These facts are more than statistics: They reflect a gradual but dramatic transformation in how society views its companion animals. Most people with pets who describe themselves as animal “owners” consider that kind of ownership very different, say, than owning a table or a lamp. Although the law has long considered domesticated animals to be personal property, possessing no inherent rights, and with no status apart from their owners, a distinction is made between a living being and an inanimate object. Damaging, breaking, or discarding your table or lamp does not qualify as a crime; doing the same things to your dog does.

Anti-cruelty statutes do not confer legal rights to animals or change their status as property; rather, they aim to protect animals from mistreatment by imposing a penalty for cruel or neglectful acts toward them. Today, anti-cruelty laws exist at the state and federal levels. The Animal Welfare Act provides protection at the federal level, and each of the 50 states and the District of Columbia share many anti-cruelty provisions. Most states deem it an act of cruelty, for instance, to “overdrive, overwork, or work an animal when it is unfit for labor.” Abandonment, poisoning, and failure to supply animals with adequate food, water, and shelter are also identified as crimes in many state anti-cruelty laws. Forty-one states and the District of Columbia now impose felony-level penalties for certain cruelty violations, including animal fighting. Plainly, most reasonable people believe animals do have a basic “right of protection” against needless pain and suffering. Some would even argue that animals have a “right of protection”
against any type of pain or suffering, under any circumstances.

Pet guardians vs. pet owners
Which brings us to this issue’s crux—and greatest paradox: If the law regards animals as a form of property, on par with inanimate objects, then they cannot have legal “rights.” Hence, a primary goal of today’s animal-rights movement is to eliminate the idea of animals as property, to alter a public mindset that they say leads to suffering. Advocates assert that using the term “pet guardians” rather than “pet owners” will promote greater responsibility and respect for animals without granting them additional protections or changing their legal status. Some do not necessarily support elevating animals to the status of humans, but believe pets “should be categorized as family members, constitutive property, companion constitutive chattel, or sentient property, rather than as mere personal property” (see Mary Margaret McEachern Nunalee and G. Robert Weedon, “Modern Trends in Veterinary Malpractice: How Our Evolving Attitudes toward Non-Human Animals Will Change Veterinary Medicine,” Animal Law, Vol. 10, 2004).

For other animal rightists, though, the goal is ambitious: To actually effect a universal change in the legal classification of people who have domesticated animals from “owners” to “guardians.” Animals, in turn, would essentially become wards, a title that confers a certain amount of self-determination or autonomy, similar to that of children. In Defense of Animals (IDA), a California-based animal-advocacy group, is heading a national effort to add or substitute the phrase “guardian” for “owner” in official statutes, ordinances, and public communications. The Guardian Campaign’s written mission is “to bring about a more just, humane world by modeling responsible, caring, and respectful language and behavior toward the animals and the people we encounter at home, in school, and in our community” www.guardiancampaign.com.

If pet owners are permitted to recover large awards, veterinarians will become more vulnerable to malpractice suits, forcing an increase in insurance premiums to cover costs of litigation and skyrocketing monetary awards.

Pets and the law
Opponents of the proposed terminology—among which are animal healthcare professionals, and many organizations within the pet industry—believe the move will cause unintended consequences that will not necessarily improve the lot of animals. Charlotte Lacroix, D.V.M., J.D., an adjunct professor at the School and specialist in veterinary law and practice management, has spoken and written extensively on the subject. She raises the following questions in keystone veterinarian, the magazine of the Pennsylvania Veterinary Medical Association:

• Can guardians treat their own pets?
• Can pets make demands of their guardians? Veterinarians? Government?
• Can guardians be divested of their property right?
• Who is responsible for veterinary bills, if care that benefits the pet was not approved by the guardian?
• What if a veterinarian disagrees with the guardian?

(continued on page 18)
High Noon for Animal Rights Law

(continued from page 17)

At a recent lecture at the School, Dr. Lacroix further pondered the impact of the law regulating our relationship with animals. “Do we have a society where we have lots of rules and regulations, or do we have a society where we get to do whatever we want? And that’s what this balance is—regulation vs. non-regulation. How much can you really regulate? Are parents good parents because they’re afraid that child welfare laws are going to result in their children being taken away from them? Is regulation really an incentive for people to be better parents, or better pet owners? Or would education be a stronger force?”

Regarding the wholesale placement of animals into a legal non-property classification, Dr. Lacroix believes an incremental change might work better. “There’s no question in my mind that animals are not cars, but there’s also no question in my mind that animals are not necessarily akin to children. They don’t have the same needs, the same interests, nor are they humans with the same roles in society, etc… Are we going to make them children overnight just by changing terminology, or instead maybe continue to strengthen the animal cruelty statutes by imposing additional obligations on pet owners and enforcing such laws before proposing new legal paradigms? Can we chip away at this property concept so that we recognize animals are not cars, but on the other hand, not turn the law on its head to take animals from property status to basically human status without debating in an open forum on which specific legal ‘rights’ animals should and should not be conferred?”

What this means to veterinarians

Inevitably, taking animals out of the realm of property will also allow courts to accept an increasing number of independent claims for the wrongful death of companion animals. Non-economic damages that previously applied only to the death of a close human family member could be awarded, such as compensation for the loss of society/companionship, pain and suffering, and mental anguish. In fact, as the cases at the beginning of this article show, courts are already awarding damages greater than an animal’s “market value” (which for most household pets is little or nothing) for emotional distress resulting from cruelty or negligence that leads to the injury or death of an animal.

For veterinarians particularly, the detrimental repercussions of courts allowing non-economic damages could challenge the practice of veterinary medicine as we currently know it. If pet owners are permitted to recover large awards, veterinarians will become more vulnerable to malpractice suits, forcing an increase in insurance premiums to cover costs of litigation and skyrocketing monetary awards. Veterinarians already face several levels of liability in treating patients: Malpractice liability, premises liability, and bailment liability, and they can be held accountable for the negligence committed by a technician or other staff member who works for them. With increased malpractice lawsuits brought against veterinarians, minor oversights could become increasingly complex—and expensive. Some veterinarians might be forced to practice “defensive medicine,” using expensive and often unnecessary treatments to avoid lawsuits (“Modern Trends in Veterinary Malpractice”). Finally, veterinarians’ increased overhead will force them to raise their fees, and many pet owners may no longer be able to afford proper care for their animals. This then becomes an animal welfare issue.

Taking the “pet guardian” issue to its logical conclusion, many critics believe the elimination of property status for pets will ultimately result in the elimination of keeping companion animals at all. Animals themselves, they conclude, would suffer the most from the good intentions of animal rightists.

 Owners as guardians

The problem seems to stem from the word “guardian,” which has a specific legal definition imparting a distinct set of responsibilities. The designation of “friend” or even “caretaker,” while elevating the status of animals above property, would not carry the same accountability on the part of “guardians.” A guardian may not even be a part of the family that owns the animal, but can be a legally appointed third party.

Dr. Lacroix specifically addresses the “friend” model. She is not convinced that society as a whole truly views animals as family members, akin to spouses and children. “According to a study by the American Pet Association … most people believe their pets are their best friend, as opposed to their children or their spouses. And that has very important legal consequences. If your pet is your best friend . . . you don’t have a guardianship obligation to your best friend; if your friend is injured or dies from the negligent acts of another, you don’t get non-economic damages.”

She continues, “The much-publicized information stating that pets are family members is anecdotal and not statistically significant. Under the ‘guardianship’ model, to require that pet owners always act in the best interests of their pets, regardless of the costs, goes beyond what most pet owners would want. So if the majority of society views pets as ‘best friends’ as opposed to children, then laws requiring owners to act in the capacity of guardian go too far.”

Despite heated controversy in the legal and animal-welfare communities, the Guardian Campaign has already met with some success. On the following page is a listing of the 12 cities and one county that have already passed ordinances incorporating the term pet guardian, and when these changes occurred; one state has included similar language in its constitution.

In addition, the bar associations of 11 states (Arizona, Connecticut, Florida, Michigan, Minnesota, Missouri, New Jersey, New York, Pennsylvania, Texas, Washington) and the District of Columbia now have animal-law sections or committees. Two are in the process of forming (Massachusetts and Oregon). At
least 50 law schools have offered, do offer, or plan to offer animal law courses, reading groups, and/or seminars. Next year, Penn Law School will offer an elective course on animal rights law that covers topics that range from the historical perspective of animals as property to current animal anti-cruelty statutes.

Passed Ordinances

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
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<tbody>
<tr>
<td>St. Louis, Missouri</td>
<td>August 9, 2004</td>
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<tr>
<td>Albany, California</td>
<td>June 7, 2004</td>
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<tr>
<td>Windsor, Ontario, Canada</td>
<td>May 10, 2004</td>
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<tr>
<td>Wanaque, New Jersey</td>
<td>May 10, 2004</td>
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<tr>
<td>Sebastopol, California</td>
<td>December 2003</td>
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<tr>
<td>Marin County, California (28 cities)</td>
<td>December 2003</td>
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<tr>
<td>San Francisco, California</td>
<td>January 13, 2003</td>
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<tr>
<td>Amherst, Massachusetts</td>
<td>April 24, 2002</td>
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<tr>
<td>Menomonee Falls, Wisconsin</td>
<td>March 11, 2002</td>
</tr>
<tr>
<td>Sherwood, Arkansas</td>
<td>September 24, 2001</td>
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<tr>
<td>Rhode Island (statewide)</td>
<td>July 5, 2001</td>
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<tr>
<td>Berkeley, California</td>
<td>February 27, 2001</td>
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<tr>
<td>North Hollywood, California</td>
<td>February 19, 2001</td>
</tr>
<tr>
<td>Boulder, Colorado</td>
<td>July 12, 2000</td>
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</tbody>
</table>

Are animals property?

Regardless of whether a consensus on the question is ever reached, it is clear that our society is in the process of dramatically altering its views toward animals. At the very least, the debate has raised public awareness of animal rights as a growing issue that warrants open discussion. Everyone whose lives are touched by animals must carefully consider the economic, political, and social implications of what such a major legal shift can or cannot accomplish.

For further reading:

- In Defense of Animals, the Guardian Campaign www.guardiancampaign.com/

American Veterinary Medical Association (AVMA) Position Statement

Ownership vs. Guardianship: Terminology Describing the Relationship Between Animals and Their Owners

The American Veterinary Medical Association promotes the optimal health and well-being of animals. Further, the AVMA recognizes the role of responsible owners in providing for their animals’ care. Any change in terminology describing the relationship between animals and owners does not strengthen this relationship and may, in fact, diminish it. Such changes in terminology may decrease the ability of veterinarians to provide services and, ultimately, result in animal suffering.

Pennsylvania Veterinary Medical Association (PVMA) Position Statements

On Pets as Property

Animals are not property in the same way that tables, lamps, or cars are property. Owners should be allowed to prove that pet animals have economic values above their purchase price or fair market value. Because of current common-law precedents, legislative changes most likely will be necessary to allow for expansion of these economic values.

On “Owner” vs. “Guardian”

The PVMA supports the current legal standing of animals as the property of their owners and opposes using the term “guardian” to describe these parties. Guardianship statues would undermine the protective care that owners can provide for their animals and the freedom of choice owners now are free to exercise, and could permit third parties to petition courts for custody of a pet or other animal for which they do not approve of the husbandry practices.

On Non-Economic Damages

The PVMA opposes legislation permitting the recovery of non-economic damages for the loss or injury of a pet, livestock, or other animal. The tort of negligent infliction of emotion distress should not be expanded to allow people to recover emotional-distress damages in litigation involving animals. Loss of companionship—a measure of damages arising out of marital and parental relationships—should not be recoverable in litigation involving animals, particularly when it is not available for the loss of close family relatives.
Thank You for Taking a Seat!

As of April 30, 2005, 220 of the 266 available classroom seats in the new Teaching and Research Building have been designated in honor or memory of a special someone or a beloved pet. A classroom seat can be dedicated for a tax-deductible contribution of $3,000 that is payable over a five-year period. If you have questions about the “Take a Seat” campaign, please contact Doris Myers, Major Gifts Officer, at (215) 746-7438 or via e-mail at dmyers@vet.upenn.edu.

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Given in Memory of My Mother and Father, by Lawrence R. Soma, V'57
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Given in Honor of James Mespouge, by Sheldon A. Steinberg, V'39
William S. Stockman, V'66
Given by Dr. and Mrs. William S. Stockman, V'66
(continued on page 24)
Carolyn and Kenton, V’68, Stokes
Given in Honor of Stuart Ames Fox, V’53
Richard P. Street, Jr., V’69 (two seats)
Inscriptions to Come
Mark A. Stuart
Given by Tom Rapu and Mark Stuart
Barry Stupine and Alan M. Kelly
Given in Memory of Speaker Matthew J. Ryan by Alan M. Kelly and Barry Stupine
Barry and Susan Stupine
Given in Honor of Jeffrey Stupine
Barry and Susan Stupine
Given in Honor of Erika Yahalomovitz
Raymond W., V’82, and Corinne P. Sweeney, D.V.M.
Given by Drs. Raymond W., V’82, and Corinne R. Sweeney
David C. Sweet, V’89
Given by David C. Sweet, V’89, with gratitude for all my teachers
Thomas J. Van Winkle, V’75, and Mattie J. Hendrick, V’78
Given by Tom Van Winkle, V’75, and Mattie Hendrick, V’78, Laboratory of Pathology
George D. Vernimb, V’56
Given by George, V’56, and Ruth Vernimb
Vet Development Office
In Memory of our Friend and Colleague—Amy Bogdashoff
Charles H. Vite, D.V.M., and Susan W. Volk, V’95
Given in Memory of Eric and Tasha by Charles Vite and Susan Volk, V’95
Lynn M. Walker, V’87
Two Dear Border Collies, Rob and Nell – Lynn M. Walker, V’87
Sally Oblas Walshaw, V’75
Given by Sally O. Walshaw, V’75 and Richard Walshaw, V’Rey’76
Dr. Peijjing Jeremy Wang
Given in Memory of Bingsuan Wang by Dr. P. Jeremy Wang
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Suzanne S. Weaver
In Memory of Wally and Jeff Weaver – Ryan Hospital
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Given with pride by Thomas J., V’78 and Beverly Weiner in Honor of Christena Weiner, V’07
Paul, V’59 and Linda Wetzel
Inscription to Come
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Given in Memory of Irmand Weber by Wilfried Weber, Department of Pathobiology
Helma Weeks
Given in Honor of All the Penn Veterinarians Who Helped My Bullmastiffs, by Helma Weeks - Nutkiet Registered
Dr. Leon P. Weiss
Given by Dr. Leon Weiss in Honor of Alice Weiss, V’84
Franklin K. Wills, V’50
Given by Franklin K. Wills, V’50 in Memory of his mother, Kathryn H. Wills
James F. Wilson, D.V.M., J.D.
Given by Elite Prior Wilson and James F. Wilson, D.V.M., J.D.

Take a Seat! (continued from page 23)

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Special Gifts to the School

The following have made gifts to the
Matthew J. Ryan Veterinary Hospital of the
University of Pennsylvania in memory of a special pet:
Mr. and Mrs. Raymond Behar in memory of “TRAVELER”
Barbara Blair in memory of “TAISHO”, “ZIMMER”, “KUMA”
Jose E. Blanco in memory of “CHATO”
Paula B. Brown in memory of “ROXANNE”
David Duncan in memory of “GABRIELLE”
John D. Denney, Jr. in memory of “MATTHEW”
Jeanette and Peter Hans in memory of “HIGGINS”
Patricia Klous in memory of “MOLLY”
Christine M. Lally in memory of “SIVEY”
Berenadine A. Lennon, CDR, USN (RET) in memory of “LUNA”
Ludwig’s Corner Veterinary Hospital in memory of “LUNA”
David and Barbara Mealmaker in memory of “KALA”, “CLIFFORD”, “ZIMA”
Lois W. Morig in memory of “DIAMONDS’ SKYBIRD” & “ULYSSES’ ARGUS”
Dr. Bernard Paeiwonsky in memory of “MAXWELL”
Elizabeth Pokemnner in memory of “CASPER”
Mr. Gerard Primavera in memory of “ASHLEY”
Richard and Ann Rosenbum in memory of “ED”
Linda K. Schleifer in memory of “MAXIE”
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Mr. and Mrs. James J. Sheridan in memory of “CRACKERS”
Brian and Trisha Whichard in memory of “CAPRI”
Barbara J. Woods in memory of “SHADOW”
Sylvia Young in memory of “JUDY”

The following have made gifts to the
Matthew J. Ryan Veterinary Hospital of the
University of Pennsylvania in memory of those listed:
Joyce Conlin Burrows in memory of Mr. C. Benjamin Boyles
Danielle Hassan in memory of Sandy Wadowsorth
Miss Louise Holliday in memory of Snowden Carter

The following have made gifts to the
Matthew J. Ryan Veterinary Hospital of the
University of Pennsylvania in honor of a special pet:
Antoinette M. Armstrong in honor of “NATAHA”
Mark A. Stuart in honor of “FARGO”

The following have made gifts to the
Matthew J. Ryan Veterinary Hospital of the
University of Pennsylvania in honor of those listed:
Bruce and Becca Singer in honor of Lorrie Holt
Marian and Robert Slater in honor of Chelea’s 15th Birthday

The following have made gifts supporting the
Humanitarian Fund in memory of a special pet:
Nancy Bett in memory of “DIECI”

The following have made gifts supporting the
Humanitarian Fund in memory of “TOBE”: Karen Allen, Esq.
Mr. Don Caskey and Warren B. Cederholm, Jr.
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D. Elton and Doris S. Cochran-Fikes
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Irene R. Klein in memory of Chessie Hammond

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Mrs. Carolyn M. Kramer in memory of “Blizzard Ben”

The following have made gifts supporting the
Clinical Studies Research Development Fund in memory of a special pet:
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Ms. Joanne Davidow in memory of “Fowler”
Laura A. Prince in memory of “BLONDIE”
Ms. Nancy Sullivan in memory of “FROGGER”

The following have made gifts supporting the
Pathology Department in memory of a special pet:
Rabia Ghadry in memory of “COCO”

The following have made gifts supporting the
Examination Room in honor of Dr. Meryl Littman:
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Littman in honor of a special pet:
Sandi and Randy Gross in honor of “BAILEY”
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The following have made gifts supporting the Lyme Disease Research in memory of a special pet:
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The following have made gifts to the Dean’s Discretionary Fund in memory of those listed:
Jonathan Cannon in memory of Elvia Tate Hoskins
The following have made gifts to the Dean’s Discretionary Fund in honor of those listed:
Clark and Louise MacMullen in memory of “SOOTY”
The following have made gifts to Veterinary Student Scholarship in memory of those listed:
Bertha L. Entwisle in memory of Frank S. Entwisle, V.M.D.
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John E. Munnell, V.M.D., in memory of W. Guy Pietz
The following have made gifts to the Robert W. Richardson, V.M.D. Memorial Fund in memory of Robert W. Richardson, V.M.D.: • J. Kent Cully
Malcolm J. Keiter
Robert W. and Jan K. Richardson, PT
The following have made gifts to the Veterinary Student Scholarship Fund in memory of those listed:
Joseph C. Glennon, V.M.D., in memory of Stephen Patrick Butler
Patricia M. Mcmanus, V.M.D., in memory of Kathleen Mary Aucamp

George P. Wilson III, V’55
Given by George P. Wilson III in memory of John T. McGuatt, V’43
John H. Wolfe, V’82
Given by John Hall Wolfe, V’82
Michael Waltz, V’78
Given by Claire and Mike Waltz, V’78
Jeffrey A. Wortman, V’69
Given in Memory of My Parents Bertram and Mildred Wortman, by Jeffrey A. Wortman, V’69

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Penn First with Veterinary Echocardiography

By Alan Atchison

Daphne lay still as ECG electrodes were attached to her paws. The five-year-old border collie with a ventricular septal defect looked around tentatively. Then she relaxed on the specially designed elevated examination table as Dr. Sharon Huston, adjunct assistant professor of cardiology, examined her through the cutout underneath the table.

Not long ago, Daphne’s exam would have been an invasive procedure. But echocardiography has greatly reduced the need for angiography, a procedure requiring cardiac catheterization and anesthesia. The School has become the first veterinary institution to perform real-time 3-D echocardiography exams using the Philips Sonos 7500, a new technological advancement in the field of cardiology.

By using ultrasound waves, echocardiography can fully and noninvasively diagnose heart conditions in most animals. To date, cardiologists at the School have performed echocardiograms on dogs, cats, horses, cows, and less common species such as ferrets, rabbits, guinea pigs, birds, lizards, camels, alpacas, llamas, tigers, chimpanzees, and squirrel monkeys.

Echocardiograms aid doctors in discriminating between soft-tissue structures and fluid, both within the heart and in the chest cavity. In addition, Doppler echocardiography reveals the direction and velocity of blood flow moving in and out of the heart by displaying the data in color or graphically, a very useful tool for evaluating congenital heart defects and acquired abnormalities such as mitral regurgitation. “The acquisition of the Sonos 7500 allows cardiologists to evaluate many cardiac abnormalities such as mitral regurgitation,” said Meg Sleeper, V’93, assistant professor of cardiology.

“On the screen we see Daphne’s heart in real time; its size, shape, and motion. We also see a small hole at the base of the septum,” Dr. Huston said. “By adding color flow Doppler, we can immediately map Daphne’s turbulent blood flow. In this case, we can see the rapid flow of blood moving from the left ventricle to the right ventricle through the defect. She also has aortic and pulmonic insufficiencies, meaning the valves are not closing properly and causing a little blood to leak back the wrong direction.”

Dr. Huston explained that before Daphne’s first echocardiogram, the sound of her heart caused major concern, prompting doctors to place her on exercise restriction. “Upon initial examination with a stethoscope, we heard a loud heart murmur and feared it would lead to complications,” she said. “The echocardiogram proved the problem was quite small. Structurally, no therapy was required and the exercise restrictions were lifted.”

Fe Wright, cardiac imaging technician, and Dr. Sharon Huston illustrate the use of color flow Doppler in targeting an aortic blood flow problem.
President’s Message

Want to invest $25 to earn $1.5 million in less than six months…Interested? Read this article!

Kresge Challenge
Here are the facts: the Veterinary School will receive a gift from the Kresge Foundation in the sum of $1.5 million dollars. One of the requirements of this gift is 2,000 new donors—period. The contribution can be as small as $25. If you have given already, support a different School fund. It counts again. The scholarship fund, the Dean's fund, Friends of New Bolton Center Fund, The Friends of the Ryan Hospital Fund, or a favorite teacher’s research fund—they all count.

If you haven’t given before, why not now? If finances are a problem, what better time to make a meaningful contribution that is not a financial strain? A solicitation stand in your office is another source of names and numbers that really count. Look at this selfishly; your School was and is a source of prestige to you. This $1.5-million grant will provide an opportunity to improve and maintain this status. Your source of new veterinarians will frequently be Penn-trained graduates. Kresge’s $1.5-million gift will enhance their training. Your referral center and consultation source will only be enhanced. There is nothing but dividends to be gained by this investment. Y our contributions. If we fall short of the 2,000 donors, we lose the entire $1.5 million. Think about it; give if you can.

Penn Annual Conference
The Penn Annual Conference was very much a success both with location and quality of speakers. The Wyndham Philadelphia at Franklin Plaza provided a much nicer venue than the Adam’s Mark and the location was more centrally located than the old site. There was a shortage of vendor space, but this was because of date conflicts caused by the Adam’s Mark late cancellation. We will have all the space we need in 2006 along with superior accommodations relative to the rooms and access to other areas.

Calendar Items
For your planning pleasure please! Mark down these dates:
• Friday, September 30, 2005, is our farewell gala for Dean Alan M. Kelly. Details will follow. The dinner will be at New Bolton Center. It will be a sit-down tented affair.
• Saturday, October 1, 2005, is Alumni Day with its picnic at the same site. We are pleased to say the carriages that enhanced our picnic last year will be participants again this year. It would be wise to make reservations early. Blocks of rooms have been held at local hotels, but they certainly will be booked early. —James V. Stewart

Veterinary Library Assists Alumni with Research Needs
After graduation, our alumni will surely miss having access to the information made available to them as students by the Penn Library. If you find yourself in that situation and need to access to books, journal articles, and databases, the Veterinary Library can help. We would like to keep in contact with the School’s alumni, and we offer many services to our graduates. All Veterinary School graduates are welcome to use the below services.

Library Access and Borrowing Privileges
Alumni may access the Veterinary Library on weekdays, 9:00 a.m. to 5:00 p.m. to use the library’s print collections (see below for information on electronic resources). An appointment is recommended if you anticipate needing librarian assistance. For reference service, call 215-898-8874.

Alumni who would like to borrow books from Penn’s libraries may apply for courtesy borrowing privileges at the special alumni rate of $200.00 per year. Application for courtesy borrowing should be made Monday through Friday to the Van Pelt Circulation Department. Call 215-898-7566 for more information. The Penn Alumni Card must be presented upon application for courtesy borrowing privileges. The Alumni Card is issued by Alumni Relations, costs $20, and is valid for ten years. Call the PennCARD ID Center at 215-898-2646 or visit www.upenn.edu/penncard/card/obtain_alumni.html for details and a mail application form.

Veterinary Library Alumni Copy Service
The Library’s new Alumni Copy Service provides copies of articles from the Penn Veterinary libraries for a nominal fee. The cost and delivery options are as follows:
• $5.00 per article for the following delivery options: pick-up, mail, or fax.
• $4.00 per article for Web-delivery. This delivery option requires an Alumni PennCard.

The Library strives to supply the article in one week, not including postal delivery time if sent by mail.

To register for this new copy service and for complete details, please visit www.library.upenn.edu/forms/vet/copyservice/policy.html.

Electronic Resources
Alumni can search the following databases free from any computer with Internet access:
• Franklin www.franklin.library.upenn.edu/, the Library’s online catalog.
• PubMed www.pubmed.gov, the National Library of Medicine’s free Medline.
• Agricola http://agricola.nal.usda.gov/, the USDA’s National Agricultural Library Database.

In addition, CAB International offers a special personal subscription rate to veterinarians who wish to search the AnimalScience database. For details, please visit www.animalscience.com and click "subscribe," or call the Veterinary Library at 215-898-8874 and we will send you a brochure. This database is a subset of CAB Abstracts, the primary veterinary database that we advise our current students to use. Previously, this important database was only available through institutional subscriptions.

The Library also provides links to veterinary medicine websites selected by Library staff. For a list to these websites, please visit www.library.upenn.edu/access/alumni/vet.html.

Last, be sure to explore the Penn Library’s Alumni Portal at: wwwlibrary.upenn.edu/portal/ with other valuable and interesting links.
—Barbara Cavanaugh
Class Notes

1963
In April 2005, the Mystic Aquarium & Institute for Exploration in Connecticut named Joseph R. Geraci executive vice president for programs.

1968
Alan Bachrach, Jr., was recently awarded the prestigious “Henry E. Childers Award” to recognize his sustained and extraordinary contributions to the education of veterinary students at the Cummings School of Veterinary Medicine at Tufts University. As the founder of Veterinary Ophthalmology of New England, Dr. Bachrach has used his Harvard and Petersham, Mass., clinics for the past 20 years to instruct fourth-year veterinary students seeking additional ophthalmology training. Dr. Bachrach did his internship at Henry Bergh Memorial in New York City, and a fellowship at Angell Memorial Hospital in Boston. He later completed residency training at Ohio State University and distinguished himself as a board-certified specialist. Dr. Bachrach now has an active referral practice in New England, providing ophthalmology care to approximately 800 new patients each year. In addition, he has made numerous contributions to his field in the form of publications, national and international teaching seminars, and widespread consultations.

1976
Scott E. Palmer takes the reins this year as the president of the American Association of Equine Practitioners. His primary goal is to improve educational opportunities.

1978
Karen Young, a Clinical Professor in the Department of Pathobiological Sciences at the University of Wisconsin–Madison School of Veterinary Medicine, has been selected as the campus-wide academic staff recipient of the Chancellor’s Hillsdale Award for Excellence in Teaching.

1991
Mark Pykett recently joined Boston Life Sciences, Inc. as executive vice president and chief operating officer. Boston Life Sciences is a biotechnology company engaged in the research and clinical development of novel diagnostic and therapeutic products for central nervous system diseases and cancer.

1995
Douglas Thamm recently joined the Colorado State University College of Veterinary Medicine and Biological Sciences as an assistant professor in oncology in the Department of Clinical Sciences. Dr. Thamm’s clinical interests include novel biological therapeutics for cancer. His research interests include tyrosine kinase signaling in animal cancer cells, and validation of biomarkers for novel therapeutics.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tr>
<td>1998</td>
<td>Heather Peikes, owner of the Animal Allergy and Dermatology clinic in Manhattan, was married to Jason Stuart Kirschner, a television art director, on December 18, 2004 in New York City.</td>
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Alumni Connections

To find a former classmate and to sign up for a permanent e-mail forwarding service:
Join the University of Pennsylvania Alumni On-Line Community for free at www.alumniconnections.com/olc/pub/UPN. After you register, you can search the On-Line Directory, which is a great resource for personal and professional networking and an easy way to keep up-to-date on fellow alumni. You can also sign up for a permanent e-mail forwarding service, which will forward messages received at your permanent Penn address to the e-mail address of your choice.

To update your alumni record:
You can update your record via the University of Pennsylvania Alumni On-Line Community On-Line Directory. You may also contact Elizabeth McNamara at (215) 746-7461 or via e-mail at emcnamar@vet.upenn.edu.

To make a gift or for information to support Penn Veterinary Medicine:
Make a gift with your credit card through a secure online transaction at www.upenn.edu/gifts. For information on supporting the School, visit the Alumni & Friends website at alumni.vet.upenn.edu or call (215) 898-1480.

To request a transcript, certification of graduation, or replacement diploma:
For information on requesting a transcript, visit the Office of the University Registrar’s website at www.upenn.edu/registrar/transcripts.html or call (215) 898-7511. For information on requesting a certification of graduation, which does not require a transcript, contact the School’s Office of Student & Curricular Affairs at (215) 898-3525 or via e-mail at student-affairs@vet.upenn.edu. For information on ordering a replacement diploma, visit the Office of the Secretary’s website at www.upenn.edu/secretary/diplomas/#replace.

To post/search employment opportunities for veterinarians:
Visit the School’s Veterinary Employment Database at www.vet.upenn.edu/jobsearch.

To purchase veterinary, medical, and allied health textbooks from leading publishers:
Visit the Penn Vet Bookstore at <www.vet.upenn.edu/studentaffairs/bookstore>. A percentage of purchases is returned to the School in the form of scholarship funding to deserving veterinary students.

To obtain a Penn Alumni Card:
The Penn Alumni Card offers a myriad of benefits, including access to the Penn Libraries (does not include borrowing privileges or access to online resources) and discounts on admission to the Morris Arboretum, Class of 1923 Ice Rink, and University of Pennsylvania Museum. The charge for the card, which is valid for 10 years, is only $20. For more information, visit www.upenn.edu/penncard/card/obtain_alumni.html. Please address any correspondence to: Office of Development, Alumni Relations, and Communication University of Pennsylvania School of Veterinary Medicine 3800 Spruce Street Philadelphia, PA 19104-6047
Obituaries

On March 26, 2005, the School lost a dear friend and colleague, Richard A. McFeely, V’61, M. Med. Sci. (Ob/Gyn) to complications following knee-replacement surgery.

Dick McFeely came to the School as a veteran of the U.S. Marine Corps, a distinction in which he took great pride for the rest of his life. He graduated in 1961 and, after a brief stint in private practice, was accepted as a post-doctoral fellow in the School’s King Ranch Laboratory of Reproductive Physiology, then located in Center City Philadelphia. This was followed by a Masters degree program in obstetrics and gynecology at the University’s Graduate School of Medicine. Though Dick was the only veterinarian in the Ob/Gyn program (the others were all physicians), he ranked first in his class at the end of the course of study in 1967.

In 1966, Dick joined the faculty as assistant professor of clinical reproduction, became chief of the Section of Reproduction at New Bolton Center in 1968, and was promoted to professor of reproduction in 1975. Under Dick’s leadership, the Section of Reproduction at NBC grew to great distinction and acquired worldwide recognition. His research interest was in cytogenetics. Working with Dr. Doug Hare, professor of anatomy, he made many important discoveries involving chromosomal disorders in domestic animals. These findings were recorded in more than 30 publications, many of which are Dick’s most important legacy at the School. He is remembered everywhere with great fondness, especially among the faculty and staff at New Bolton Center.

In 1995, Dick retired and moved to Chester-town, Md., where he became executive director of the Chester Valley Community Mediation Service. He is survived by his wife, Lynne; three children, Karen M. Weaver, Timothy McFeely, and Richard McFeely Jr.; and five grandchildren.

Dana Frederick, V’99, died on Easter Sunday, March 27, 2005, in Asheville, North Carolina. After a five-year battle with polymyositis, at the age of 33, Dana could no longer fight. After graduation, Dana practiced in Alexandria, Va., to be near her sister, Nicole. As her disease progressed and she became weaker, she moved to Florida to live with her mother. It was in these five years that Dana Frederick became a hero and an inspiration. From the time that Dana became ill, she would send e-mails updating her friends of her condition. These notes were never full of sorrow, self-pity, or bitterness—they were instead filled with the usual jokes and ironic comments that Dana is known for. Some days, Dana could not even breathe without the assistance of a ventilator, but she never complained. She was always more concerned with everyone else’s lives. Dana also never gave up hope. After moving to North Carolina two years ago, she became licensed in that state, even though she knew she would probably never practice again. She even kept up with her continuing education credits. The Class of ’99 has lost a truly special classmate.

Dana is survived by her mother, Lorraine Marina; her father, Walter W. Frederick; her sister, Nicole Hathaway; and her dogs, Raquet, Puck, and Summer. Contributions in her memory may be made to The Myositis Foundation, 1233 20th Street, NW #402, Washington, DC, 20036 (www.myositis.org) or to Capital Animal Care, P.O. Box 41112, Arlington, VA, 22204 www.petfinder.org/shelters/va146.html.

—Jennifer Morris, V’99

Sue Adams, 65, passed away on April 1, 2005. Sue came to New Bolton Center in 1979 and worked as a research administrative assistant until 1982, when she became a hospital administrator in the George D. Widener Hospital for Large Animals. In that position, Sue supervised a number of staff and organized and participated in beautification of the Hospital grounds. Sue retired in fall 2003 but returned to New Bolton Center in spring 2004 to work part-time for approximately one year.

Sue is survived by her husband, daughter, two sons, and six grandchildren.

Class Notes

(continued from page 27)

1945
Frank Strode Entwistle on January 14, 2005.

1961

1987
Donald Meredith on April 12, 2005.

1999
Dana Frederick on March 27, 2005.

Share news with your classmates about a new position or accomplishment, wedding, or birth announcement by sending your class note today! We accept pictures, too, featuring alumni gatherings, whether from a wedding or mini-reunion. Be sure to identify everyone in the picture. Pictures will be returned only upon request. Send all your submissions to:

Office of Development, Alumni Relations, and Communication
University of Pennsylvania
School of Veterinary Medicine
3800 Spruce Street
Philadelphia, PA 19104-6047
Fax: (215) 573-3544
Email: luciani@vet.upenn.edu
Penn Veterinary Medicine Alumni Discover Rewarding Careers in Biotech

By Nancy West

During the past decade, growth in the biotechnology industry has exploded with U.S. revenues increasing nearly fivefold, from $8 billion in 1992 to $39.2 billion in 2003. During roughly the same period, research and development spending in the U.S. biotech industry more than doubled from $7 billion to $17.9 billion, while the number of biotechnology patents granted per year more than tripled from about 2,500 in 1992 to nearly 7,800 in 2002. Employment in the industry soared from 103,000 in 1994 to more than 198,000 in 2003.

Attracted by a wide range of opportunities, a growing number of Penn Veterinary Medicine alumni are finding rewarding careers in biotechnology where they enjoy the advantages of a resource-rich industry and entrepreneurial spirit as well as the excitement of research and discovery that has the potential to enhance human and animal health.

Following are the stories of three Penn alumni who have found success and fulfillment in the biotechnology field.

Douglas J. Ringler, C’79, V’83:
A Promising Therapy for Type I Diabetes

During his teenage years in upstate New York, Doug Ringler, C’79, V’83, worked at a mixed veterinary practice where a large number of the patients were dairy cows. He loved the experience and had every intention of joining the practice after finishing veterinary school. Instead, he joined a small-animal practice in Boston and, after just a few months, made a discovery that was surprising even to him. Although he enjoyed veterinary practice, he wanted something more.

“I quickly found myself looking for the next challenge in my career,” Dr. Ringler recalls. “I wanted to work on new goals that would complement what I had already experienced, so I decided to return to academia.”

After completing a residency and a post-doctoral fellowship in pathology at Harvard Medical School, Dr. Ringler joined the school’s medical faculty. During his 10 years at Harvard, he ultimately served as associate professor of pathology and chairman of the Division of Comparative Pathology, and directed a pathology lab of 20 pursuing research in inflammatory mechanisms.

In 1993, Dr. Ringler decided it was time to move on to the next phase of his career—translating basic research findings into the clinical venue. That year, he ventured into the biotech industry as a founding scientist and executive officer of LeukoSite, Inc., a biotech company focused on the development of therapies to alter immunological responses.

Five years later, the successful company was sold to Millennium Pharmaceuticals, which marketed two products based on the research and development done by Dr. Ringler and his colleagues, including Campath®, a monoclonal antibody for refractory chronic lymphocytic leukemia, and Velcade®, a treatment for multiple myeloma. Another biotech firm, Genzyme, acquired the rights to and is now developing Campath® as a treatment for multiple sclerosis.

Today, Dr. Ringler is president and CEO of TolerRx, a biopharmaceutical company he co-founded in 2000 to focus on the discovery, development, and commercialization of novel therapies to treat patients with immunological diseases, including Type I diabetes, psoriasis, and hemophilia A.

“We are now moving toward Phase III testing in humans with a monoclonal antibody that we believe can very significantly change the disease course in Type I diabetes,” says Dr. Ringler, noting that an article will soon appear in the New England Journal of Medicine about these unprecedented findings.

“Knowing that your efforts are benefiting others is tremendously rewarding,” he says. “We expect this product to modulate the disease course in children, young adults, and adults with Type I diabetes. We hope to significantly reduce the side effects from the disease that are largely vascular related.”

TolerRx is also running Phase I clinical trials on the same product for the treatment of psoriasis, and expects to begin Phase I trials this year with a second product designed to induce tolerance in transplantation, autoimmune diseases such as lupus, and clinical situations where the immune system attacks therapeutic proteins or biologic drugs, such as Factor VIII in hemophilia A.

“Biotech is a terrific career path for a veterinarian,” says Dr. Ringler. “Very few careers give you the opportunity to participate in drug discovery and development at all levels of the process. You can start at the bench and take it all the way to the patient’s bedside, which is tremendously rewarding. Veterinary training, especially at Penn, gives you a unique perspective that is very valuable in this process.”

Mark J. Pykett, V’91, PhD’94, MBA:
Developing CNS Diagnostics and Therapeutics

The research lab was always the end goal for Mark Pykett, V’91, PhD’94, MBA. Now president and chief operating officer of Boston Life Sciences, Inc., a biotechnology company focused on research and clinical development of diagnostic and therapeutic products for central nervous system (CNS) disorders, Dr. Pykett says that he was motivated to attend veterinary school for his training because he believed it would give him the best, broad-based training. He was not disappointed.

“I chose Penn because of the Veterinary Medical Scientist Training Program,” he says. “I liked the fact that this combined VMD/PhD degree program was well integrated between the vet school and the graduate research environment.”

Dr. Pykett also believed that the diversity of species, conditions and diseases encountered in veterinary school would provide him with better interdisciplinary approaches, better translational capabilities, and a better ability to think outside the box and extrapolate findings between species.

After completing the program and a post-doctoral fellowship at Penn, he moved on to Harvard School of Public Health, where he completed a second post-doctoral fellowship on the molecular basis of cancer and then held an adjunct faculty position for five years.

Dr. Pykett expected to remain in an academic career, but switched gears when he became interested in Boston’s hot biotechnology industry.

“While at Harvard, I had the opportunity to see the entrepreneurial side of medical research,” he (continued on page 30)
Penn Veterinary Medicine Alumni Discover Rewarding Careers in Biotech

(continued from page 29)

recalls. “At about the same time, I learned about a technology that I thought had interesting prospects as the seed for a biotech company.”

Together with the inventor of the technology and a colleague from Penn, Dr. Pykett co-founded and served as president and CEO for Cytomatrix, a startup company that focused on developing cell therapeutics. Later, he served as president of Cordlife, a cell therapy biotech company that acquired his successful company, and of CyGenics, a global adult stem cell and cell therapy biotech company.

Since 2004, he has overseen operations at Boston Life Sciences, Inc. (BLSI). He also serves on the board of directors of several public and private biotech companies. The current lead product in the BLSI pipeline is ALTROPANE®, a diagnostic imaging agent for the early diagnosis of Parkinson’s disease, which is currently in Second Phase III clinical trials. “Our goal is to show that ALTROPANE® will improve the medical community’s ability to differentiate Parkinson’s disease from non-Parkinsonian movement disorders,” says Dr. Pykett. ALTROPANE® is also in Phase II clinical trials for use in objectively diagnosing attention deficit hyperactivity disorder (ADHD). Other products in the pipeline include a nerve growth factor for the treatment of stroke and spinal cord injury and a novel DAT (dopamine transporter) blocker for the treatment of Parkinson’s disease.

“The challenge of bringing innovations through the entire development and commercialization process that, hopefully, will lead to a product that can enhance the lives of many people is extremely rewarding,” states Dr. Pykett. “The biotech industry offers a host of benefits to veterinarians who are interested in research,” he notes. “In smaller biotech companies, you have the opportunity to be entrepreneurial and innovative and play a leadership role very early in your career. For me, the incentives, flexibility, and autonomy in the biotech industry, combined with the opportunity to do innovative work that moves at a rapid pace, have brought a tremendous amount of career satisfaction.”

Kenneth L. Mohn, V’88, PhD’91:
Research and Discovery in Large Pharma

As a boy growing up at the edge of the Pine Barrens in Tom’s River, N.J., Ken Mohn, V’88, PhD’91, spent a lot of time in the woods catching snakes, lizards, and other creatures, observing them for a while, then letting them go free. “I always loved animals and related well to them,” recalls Dr. Mohn. “Everyone said, ‘You should be a veterinarian.’ But I wanted to be a Marlin Perkins or Jacques Costeau. That seemed more exciting.”

Nevertheless, Dr. Mohn decided to pursue a veterinary career. “I grew up in a strong Christian home and I believed that was God’s direction for my life,” he says. While pursuing an undergraduate degree in animal science at Rutgers University, he had the opportunity to work on a highly successful honors research project. That experience ignited his interest in a career that would combine his love of animals and research.

“In the midst of that project, I was applying to veterinary schools,” explains Dr. Mohn. “When I saw the Veterinary Medical Scientist Training Program in Penn’s brochure, I knew that was the place for me.”

While in school, he completed a lab animal medicine rotation at Merck. “I was intrigued by the pharmaceutical industry and the opportunity to do practically oriented research in a well-funded organization,” he states. In 1992, he joined Merck’s Basic Animal Science Research group, which focuses on the development of novel veterinary pharma products.

Serving first as a research fellow and then research veterinarian during the past 13 years, Dr. Mohn has worked on a wide range of projects, from allergy treatments for dogs and cats to feline dental products to growth promotants for pigs and cattle to poultry products, and even some human-health products.

Currently, he is in charge of a parasitology laboratory looking for a broad spectrum anti-parasitic drug with the potential to take the place of ivermectin.

Dr. Mohn holds a patent for a product developed to treat feline dental resorptive lesions, which he is hopeful will reach the marketplace. He also takes pride in his contributions to a reproductive control project in which his veterinary training played a key role. “My observations evolved into an exciting program to develop a reproductive control vaccine targeted primarily to the pork industry,” he says.

Dr. Mohn enjoys the fact that, in addition to research, he is also responsible for the health of horses, cattle, swine, chickens, and sheep residing at Merck’s 200-acre research farm where he has worked for the past five years. “I really missed the hands-on contact with animals when I was just working in the lab,” he relates. “Now I have the opportunity to treat a horse or a cow and to run some in vitro studies while maintaining a productive in vivo laboratory... it’s the best of both worlds.”

Dr. Mohn has found his veterinary training invaluable throughout his career. “I’ve led many multidisciplinary project teams because of my diverse training,” he notes. “It helps tremendously in understanding the process for which we’re trying to develop a therapy and for developing valid animal models.”

The rewards of research work at a large pharma company are enormous, he says. “In addition to significant financial benefits, you have huge opportunities to be creative and apply your veterinary skills to pursue a goal that may have a very significant impact on animal health worldwide and contribute to human health as well. It’s exciting to think that your discoveries may ultimately change the way people practice medicine.”

Mark J. Pykett

Kenneth L. Mohn
Ensuring Healthy Guide Dogs for The Seeing Eye

By Nancy West

When Dolores M. Holle, V’81, decided at age 10 that she wanted to become a veterinarian, she never imagined that she would one day be in charge of canine health for more than 500 dogs and puppies each month at The Seeing Eye in Morristown, New Jersey. That’s how many canines are in various stages of breeding, screening, and training at this venerable institution on any given day.

Looking back, Dr. Holle recognizes that her work at The Seeing Eye seemed “meant to be” long before she came on board as its first full-time attending veterinarian and founding director of canine health management in 1991. “Having grown up in New Jersey, I was always aware of The Seeing Eye,” she says. While attending the College of Saint Elizabeth near the organization’s Morristown headquarters, she chose The Seeing Eye as the subject of an independent study project.

Then, while a veterinary student at Penn, she adopted a Seeing Eye puppy that had been eliminated from the program due to an orthopedic problem. “He was brought into radiology at Penn and Dr. Darryl Biery [emeritus professor of radiological sciences], who continues to be The Seeing Eye’s radiologist, helped me arrange the adoption. Devon was the quintessential dog—a black Labrador retriever—that one dog that stands out in a person’s life.”

“Our dogs were useful in helping Dr. Aguirre hunt for the gene for PRA. He developed a marker blood test that has enabled us to work around the disease and eliminate the risk of creating any additional dogs that will be affected.”

After working in private practice and emergency medicine for a number of years, Dr. Holle seized an opportunity to join The Seeing Eye. She established and directs the 37-member department of canine health management where her responsibilities include reproduction services, pediatrics, early puppy socialization, guidelines, and oversight of 900 puppies placed with families, overall health care of dogs on campus, and guidelines and consultation services for 1,800 dogs in field service.

“I truly feel that I have one of the finest jobs in veterinary medicine,” she says. “Here, we provide healthy dogs for use as guides in a relationship that epitomizes the human animal bond. We see miracles happen every month as new students come here to bond with their dogs.”

“The dogs change people’s lives in so many ways,” she adds, “just by providing the freedom to go out in the world and explore without depending on another person. As exhausted as we might be at the end of the day, seeing that happen just carries us forward.”

Although guide dogs are intelligent, wonderful animals, they are still dogs, notes Dr. Holle. “They can be rascals when we’re trying to do their physical exams or take blood samples,” she notes. “Then they put on that harness and go to work. To see that transformation is phenomenal.”

During her 14-year tenure at The Seeing Eye, Dr. Holle has played a major role in the organization’s growth, expanding her staff from one to four full-time clinical veterinarians and 18 canine health technicians who provide an extensive preventive health care program, conduct physical exams, and consult with the veterinarians of Seeing Eye puppy raisers and graduates.

“We are the first facility outside Penn to be certified for the PennHIP® radiographic procedure and to employ the technology.”

Dr. Holle also played a key role in the design and construction of three major building projects—a training facility and a canine health center, both over 40,000 square feet, and a 60,000-square-foot breeding station for German shepherds, Labrador retrievers, and golden retrievers.

The Vincent A. Stabile Canine Health Center, which is accredited by the American Animal Hospital Association, features a state-of-the-art clinic equipped to provide ultrasonography, endoscopy, and bronchoscopy. “We are the...”
Ensuring Healthy Guide Dogs for The Seeing Eye

(continued from page 29)

first facility outside Penn to be certified for the PennHIP® radiographic procedure and to employ the technology,” notes Dr. Holle. “In addition, ours is one of the few veterinary facilities that conducts electroretinography (ERG) screening for progressive retinal atrophy (PRA), a genetic condition common in the general population of Labrador retrievers.”

Dr. Holle and her staff teamed with Gustavo D. Aguirre, V’69, Ph.D., professor of medical genetics and ophthalmology at Penn Veterinary School, to wage a highly successful battle against PRA, a disease that ultimately leads to blindness. “We first found PRA in one of our breeding stock in 1993,” Dr. Holle explains. “Our dogs were useful in helping Dr. Aguirre hunt for the gene for PRA. He developed a marker blood test that has enabled us to work around the disease and eliminate the risk of creating any additional dogs that will be affected. Today we rarely even have carriers! I’m very proud of the way The Seeing Eye collaborated with Penn to defeat this problem and that we continue to support and participate in other important research efforts.”

Dr. Holle also takes pride in the state-of-the-art breeding station she helped to design, as well as the extraordinary 95 percent whelping rate which yields the 85 to 90 litters born each year. “We’ve finely tuned our ovulation timing and we have a fabulously healthy breeding colony,” she reports.

Dr. Holle believes that the design of the breeding station contributes to the health of the dogs. Pavilions arranged in octagons enable the dogs to see each other and get a sense of the pack without being crowded. Overhead skylights and windows lining the perimeter create a light, airy, and expansive facility that reduces stress in the dogs.

“Our breeder dogs live fantastic lives here,” says Dr. Holle. “They participate in an enrichment program designed to enhance their lives by providing them with mental and physical stimulation through obedience exercises, agility and games. Our puppies take daily jaunts to the puppy playroom where they play on wobble boards, climb over crates, go up and down sliding boards, play ball and listen to CDs with sounds to prepare them for the outside world.”

Dr. Holle also interacts with the students who come through The Seeing Eye training program, meeting with each monthly class. “Our graduates are the most astute dog owners I have ever met,” she observes. “They are much more closely involved with their dogs than the average owner and, therefore, they recognize more quickly when the dog has a problem that needs attention. We are proud that the work we do helps them to achieve greater independence, dignity and self-confidence in their lives.”

Bark This Way: Canine Partners for Life Offers Service Dogs for People with Disabilities

By Alan Atchison

On April 7, 2005, veterinary students crowded into the basement of the Matthew J. Ryan Veterinary Hospital to hear a presentation by the founder of Canine Partners for Life (CPL), a nonprofit organization located in Cochranville, Pa., that trains and provides service dogs for people with disabilities. The talk, sponsored by Nestlé Purina, was led by CPL founder and executive director, Darlene Sullivan. Also in attendance from CPL were board member Irving Gerber and Jennifer Kriesel, director of development. Along with the CPL staff were Nelson (Sullivan’s personal service dog), Myers (a 10-month old yellow Labrador retriever in training) and Alex (a retired service dog, currently doing demonstrations).

Service dogs are trained to assist people with mobility impairment and those who have difficulty using their hands to perform tasks. According to Sullivan, service dogs allow people with disabilities to experience a greater sense of independence and dignity by not having to rely on others to perform everyday tasks.

Service dogs are brought to CPL from a variety of sources, most commonly from breeders, kennels, and shelters. Most are pure-bred black and yellow Labrador retrievers, brought in as puppies. The puppies are evaluated in volunteer homes for one year, to gather information regarding behavior and personality traits. Sullivan stressed that all School students are eligible for first-year volunteer puppy homework. “A center city college campus such as Penn offers dogs a wonderful environment for diverse exposure because service dogs in training can go anywhere you go, including your classes,” she said.

“The relationship between people and their service dogs is very different than the bond one would have with a pet,” said Sullivan. Service dogs and their owners are inseparable, depending on each other for physical and emotional support. “Can you think of anything in your life, other than your cell phone, that you spend 24 hours a day with?” she said. “My relationship with Nelson is mind-boggling!”

CPL’s positive relationships with veterinarians are crucial to the success of the service dog program. “It is important for veterinarians to familiarize themselves with service dog programs so that when the dogs need to be treated, the correct approaches can be taken to ensure optimum care for the dog and owner, making the job easier for the veterinarian,” she said.

For more information, see the Canine Partners for Life website at <www.k94life.org>.
The 2005 Penn Annual Conference was held at the Wyndham Philadelphia at Franklin Plaza, an exciting new venue for the conference. This year’s topics for companion-animal practitioners included surgery, radiology, anesthesia, renal disease, orthopedics, skin reconstruction, oncology, and cardiology. Equine practitioners addressed orthopedics and biosecurity issues, and food-animal practitioners discussed how to optimize the profitability of dairy facilities. Veterinary technicians also had a variety of courses to choose from, including handling common emergencies, parvovirus, pediatrics, oncology, and endocrine disorders. Mark your calendar now for March 2 and 3 for the 2006 Penn Annual Conference, which will also be held at the Wyndham.

Dedication of the Ryan Hospital’s New “Paul James and Charles A. Gilmore, Jr. Lobby”

In March, renovations to the Ryan Hospital lobby were completed, including new seating for clients, separate waiting areas for those with dogs and those with cats, a liquid crystal display television that is cable-ready, a redesigned space for 24-hour security guards, and a new reception information window area. The improvements were made possible by a generous gift from grateful clients Paul James and the late Charles A. Gilmore, Jr., and the lobby has been named in their honor. Pictured at right, Ryan Hospital director Barry Stupine (right), joins Paul James (seated) with “Sprocket” and Ken Webb at the lobby dedication. At left, Mr. Paul’s family, including his niece Joy Barrows (at far right); her sons Edward Connolly, with wife Sara and their children Charlie and Jack, and Joe with wife Holly Connolly, V’97.

Cardiology residents in various stages of training from across the U.S. and Canada attended the 4th biannual board review sessions at Penn on May 8 and 9 and were treated to remarks by David Detweiler, V’42, the father of veterinary cardiology, who is still active as a toxicology consultant.
### Upcoming Events

**June**

**26**  
3:00 – 7:30 p.m.  
**Long Island Dean’s Reception**  
Massapequa, N.Y.  
For information, please contact Dori Myers at 215-746-7438 or dmyers@vet.upenn.edu

**July**

**17**  
6:30 – 8:30 p.m.  
**Alumni Reception, AVMA Annual Convention**  
Hilton Minneapolis  
Minneapolis, Minn.

**August**

**7**  
12:00 noon  
**New Bolton Center Luncheon at the Rail Pavilion**  
at the historic Saratoga Springs race track  
to celebrate Dr. Kelly’s deanship.  
Saratoga, N.Y.

**September**

**9**  
10:00 a.m. – 12:00 noon  
**Opportunity Scholarship Meeting**  
Ryan Veterinary Hospital at Penn

**12:00 – 1:00 p.m.**  
**Opportunity Scholarship Welcoming Luncheon for Students**  
Ryan Veterinary Hospital at Penn

**2:00 – 4:00 p.m.**  
**Veterinary Medical Alumni Society Executive Board Meeting**  
Ryan Veterinary Hospital at Penn

**30**  
**Dean’s Gala**  
Join us in this special event honoring Dean Alan M. Kelly  
New Bolton Center

**October**

**1**  
Alumni Day  
Connect with friends, old and new at the annual picnic  
New Bolton Center

4:00 – 5:30 p.m.  
**Class of 1955 “50th Reunion” Reception**  
Allam House  
New Bolton Center

**22**  
Parents and Partners Day 2005  
Parents and partners of first-year students receive an overview of veterinary education at Penn.  
Philadelphia Campus

**November**

**4-6**  
**The Third International Equine Conference on Laminitis and Diseases of the Foot**  
Sponsored by SLACK Incorporated, in collaboration with the University of Pennsylvania School of Veterinary Medicine.  
Palm Beach County Convention Center  
Palm Beach, Fla.

**16**  
11:00 a.m. – 1:30 p.m.  
**Opportunity Scholarship Meeting**  
New Bolton Center

**2:00 – 4:00 p.m.**  
**Veterinary Medical Alumni Society Executive Board Meeting**  
New Bolton Center

**18**  
**White Coat Ceremony**  
By Invitation Only  
Annenberg Center

**December**

**19**  
2005 Rush Shippen Huidekoper Society Dinner  
College of Physicians  

**Opportunity Scholarship Reception prior to Huidekoper Dinner**  
College of Physicians  

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### Important Phone Numbers

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<tr>
<td><strong>Matthew J. Ryan Veterinary Hospital of the University of Pennsylvania</strong></td>
<td>(215) 898-4685</td>
</tr>
<tr>
<td>24-Hour Emergency Service</td>
<td>(215) 898-4680</td>
</tr>
<tr>
<td>Specialist Clinic Appointments</td>
<td>(610) 444-5800</td>
</tr>
<tr>
<td><strong>George D. Widener Hospital for Large Animals at New Bolton Center</strong></td>
<td>(215) 898-5438</td>
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<tr>
<td>24-Hour Emergency Service and Specialist Clinic Appointments</td>
<td>(215) 898-0600</td>
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<tr>
<td><strong>Penn Veterinary Medicine</strong></td>
<td>(215) 898-1480</td>
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<td>General Information</td>
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<td>Dean’s Office</td>
<td>(215) 898-3525</td>
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<td>Development and Alumni Relations</td>
<td>(215) 898-3525</td>
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<tr>
<td>Student Admissions</td>
<td>(215) 898-5434</td>
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<tr>
<td>Student and Curricular Affairs</td>
<td>(215) 898-3525</td>
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Visit the School’s website at [www.vet.upenn.edu](http://www.vet.upenn.edu)
Penn Veterinary Medicine's newsmagazine, Bellwether, has been in publication since 1981 and we are in the process of considering some changes. We would like to consult you, our readers, on the appearance and content of both the print and electronic versions of Bellwether. Please take a few minutes to complete this questionnaire. Results of this survey will be used to improve the quality and substance of Bellwether to better serve you.

Please return the survey **NO LATER THAN AUGUST 15** in the enclosed blue business reply envelope, OR

You may complete it online at [www.vet.upenn.edu/schoolresources/communications/survey/bwsurvey.html](http://www.vet.upenn.edu/schoolresources/communications/survey/bwsurvey.html)

1. Bellwether is published 3 times per year. How many issues do you typically read?
   - [ ] None
   - [ ] 1 issue
   - [ ] 2 issues
   - [ ] All 3 issues

2. Approximately how much time do you spend reading a typical issue of Bellwether?
   - [ ] 10 minutes or less
   - [ ] 10 – 20 minutes
   - [ ] 20 – 30 minutes
   - [ ] More than 30 minutes
   - [ ] Don’t Know

3. Do you pass along your copy of Bellwether to others to read?
   - [ ] Yes
   - [ ] No (If no, please skip to Question 5)

4. Approximately how many people, not including you, read your copy of Bellwether?
   - [ ] No others
   - [ ] One
   - [ ] Two
   - [ ] Three or more
   - [ ] Don’t Know

5. How would you rate the content of Bellwether overall?
   - [ ] Excellent
   - [ ] Very Good
   - [ ] Good
   - [ ] Adequate
   - [ ] Poor

6. Each issue of Bellwether contains a number of different features and departments, which may or may not be of interest to you. Please rate the following Bellwether features according to your interests.

<table>
<thead>
<tr>
<th>Please circle one response for each item.</th>
<th>Extremely Interesting</th>
<th>Very Interesting</th>
<th>Somewhat Interesting</th>
<th>Not at all Interesting</th>
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<tr>
<td>Profiles of successful and/or interesting School alumni</td>
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<td>2</td>
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<tr>
<td>Reports on School events that have already occurred</td>
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<td>Alumni Notes section</td>
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<td>Articles chronicling ongoing research projects at the School</td>
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<tr>
<td>Information on School departments or centers</td>
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<td>Practical advice dealing with animal care</td>
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<tr>
<td>Articles on animal success stories at Ryan and Widener Hospitals</td>
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<td>3</td>
<td>2</td>
<td>1</td>
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7. Please tell us what you'd like to see in Bellwether in addition to what we are already providing.

8. Do you have any story ideas for Bellwether?

9. Have you ever visited the School of Veterinary Medicine's website?
   - Yes
   - No (If no, please skip to Question 13)

10. Have you ever read the web-exclusive Bellwether articles on-line?
    - Yes
    - No

11. What do you like about the School of Veterinary Medicine's website?

12. What do you dislike about the School of Veterinary Medicine's website?

13. What is your primary affiliation?
    - Alumni
    - Client at Ryan Hospital
    - Client at Widener Hospital
    - Friend of New Bolton Center
    - Friend of Ryan Hospital
    - Faculty or Staff Hospital
    - Other (please specify)

14. If you are an alumnae/alumnus, would you be interested in receiving an alumni newsletter with alumni news and details about upcoming events?
    - Yes
    - No

15. Would you be interested in receiving a newsletter with pet tips and information about the hospitals at the School?
    - Yes
    - No

16a. Are you a veterinarian?
    - Yes
    - No (If no, please skip to Question 17)

16b. If so, what is your specialty?

17a. Do you support the School with tax-deductible contributions?
    - Yes (If yes, please skip to Question 18)
    - No

17b. If you choose not to, would you share your reason?

18. Please feel free to add any additional notes or comments below.

THANK YOU FOR COMPLETING OUR SURVEY.