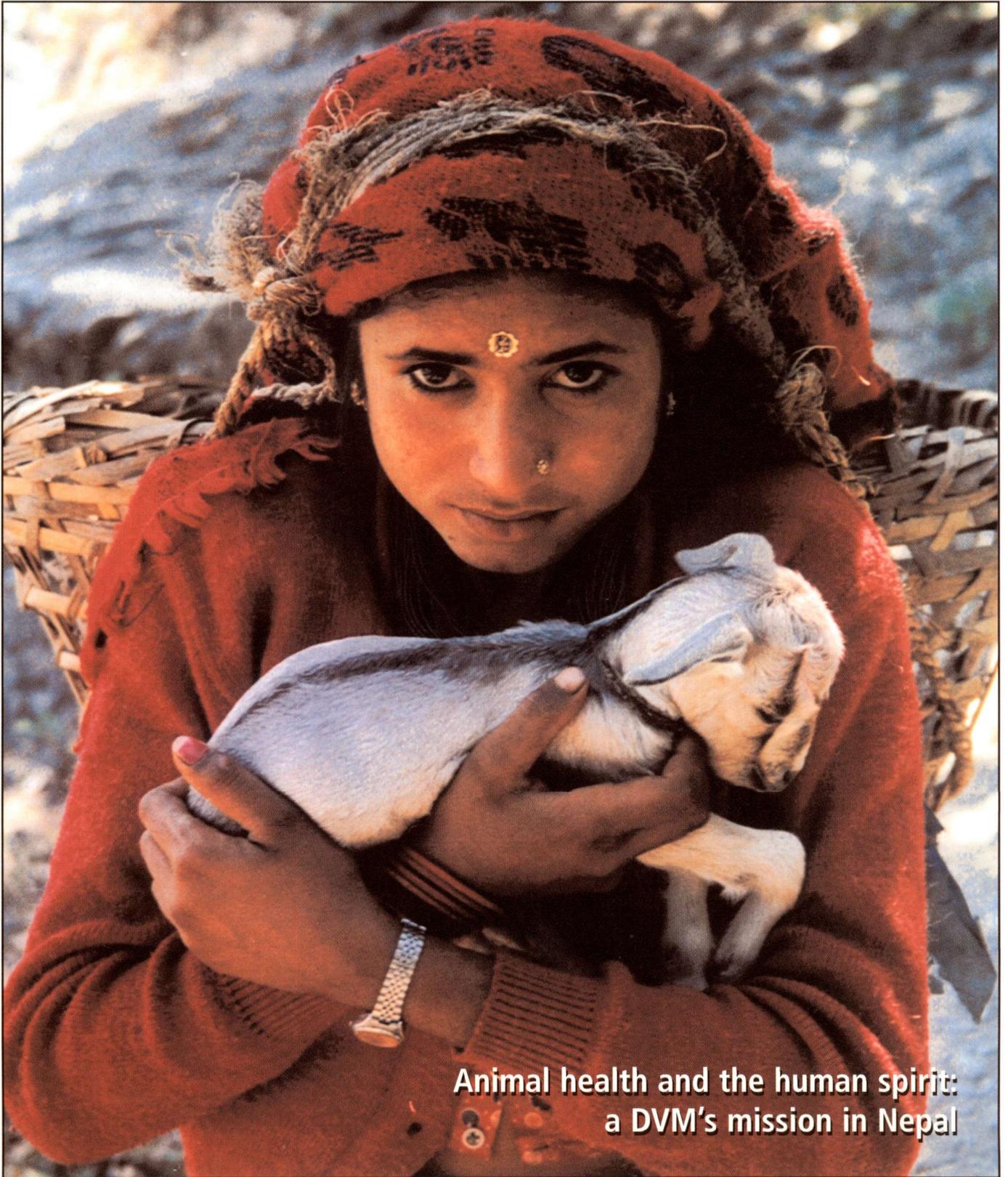
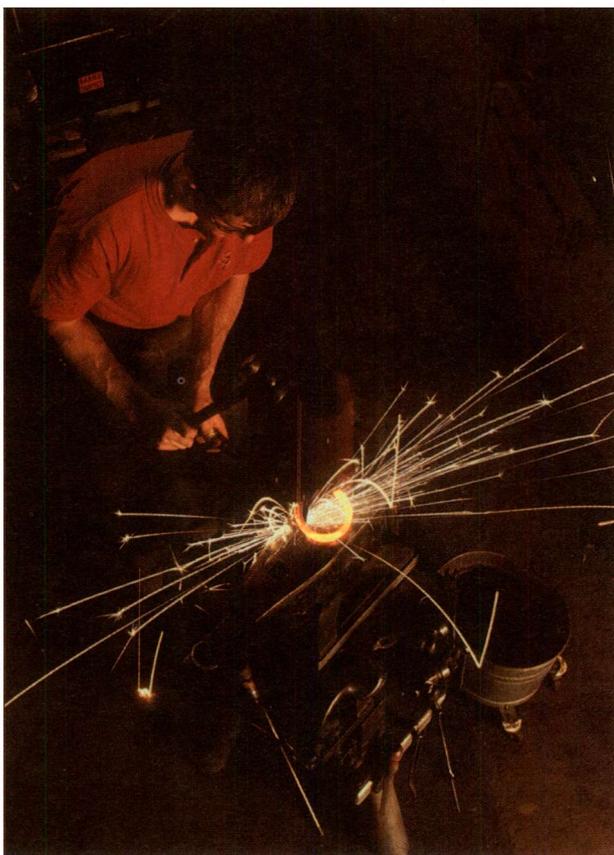


CORNELL UNIVERSITY  
**Veterinary**  
Medicine

W I N T E R 2 0 0 1



Animal health and the human spirit:  
a DVM's mission in Nepal



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# CORNELL UNIVERSITY Veterinary Medicine

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# Surpassing Clinical Excellence

A MESSAGE FROM THE DEAN

A substantial growth in clinical programs and hospital services was one of the remarkable stories of our college last year. With the dedication of its new name and a redoubling of our commitment to outstanding service and education, the Cornell University Hospital for Animals is being positioned to achieve national prominence as *the* center of clinical excellence in veterinary medicine.

As the new chairman of the Department of Clinical Sciences, Richard Hackett has moved swiftly to fill several faculty positions and to initiate programs that can offer unmatched breadth and depth of resources and expertise. The inauguration of a dedicated oncology service led by Rodney Page is an important step in this direction. A second oncologist, Margaret McEntee, DVM '86 (daughter of professor emeritus Kenneth McEntee, DVM '44) arrived this past fall, and Kenneth Rassnick, DVM '93 joined the oncology unit in January. The need for acquiring major enhancements to our diagnostic and therapeutic infrastructure, in particular a linear accelerator and a magnetic resonance imaging unit, will be given serious attention over the next several months.

We are committed to ensuring parallel progress in biomedical science and veterinary medical practice. Our clinical programs, already leaders in the investigation of spontaneously occurring diseases and disorders of animals, can best achieve further distinction in a climate that emphasizes purposeful discussion and collaboration between basic scientists and clinicians. To be meaningful, connections must run in both directions at once: basic research must ultimately advance medical practice, and clinical observations and needs must inform and influence the research performed in the laboratory.

Bonds uniting discovery and application are being created in several areas, among them molecular targets for cancer intervention, genetic-based diseases in horses and dogs, the repair of articular cartilage defects in racing horses, recombinant erythropoietin therapy for dogs and cats, and novel diagnostic tests for infectious agents including West Nile virus, leptospirosis, and leishmaniasis.

The financial pressures for veterinary teaching hospitals have never been greater. Nevertheless, strong clinical programs are essential to our success in meeting our teaching and service missions. Moreover, there is growing recognition – not only within the college, but among basic researchers in engineering, biochemistry, nutritional science, and chemical biology – that our animal-based clinical environment offers a pivotal link between biomedical research and medicine. The importance of this role augurs well for the increased eminence of our clinical programs.

The college's central purpose remains the education of veterinary students to meet a lifetime of emerging challenges in the profession. Our nationally renowned problem-based curriculum depends for its relevance and excellence on interaction with an outstanding teaching hospital. Our hospital, in turn, is wholly reliant upon the support of our colleagues in practice, who not only furnish us with the cases that provide the framework for all of our clinical programs, but also provide ideas and encouragement, and challenge us to offer the very best in veterinary education, clinical service, and the scholarly advancement of medicine. ■



Alexis Wenski-Roberts / Image Lab

Donald F. Smith

# First, Do No Harm:

THE CASE FOR COMPANION-ANIMAL ERYTHROPOIETIN

**Developing and testing  
a safe, effective, and  
much-needed anemia  
therapy for companion  
animals may not be  
enough to guarantee  
that veterinarians will  
get to use it.**

When veterinarian Kathy MacLeod first saw Teddy as a patient, she remembers thinking that he was “the sweetest, nicest puppy – so quiet and easy to play with.” But tests done when Teddy proved difficult to housebreak turned up an ominous reason for his unusually docile nature – Teddy’s kidneys were not working properly. Since he was only six months old at the time, MacLeod surmised that he had been born with malformed kidneys, a condition called congenital renal dysplasia that often leads to kidney failure.

As often happens in cases of chronic renal failure, Teddy’s kidneys gradually lost the capacity to produce erythropoietin, or EPO, a hormone that stimulates the bone marrow to produce red blood cells. For different reasons, EPO production is also often affected in animals and humans with other chronic diseases, including cancer. Regardless of the cause of an erythropoietin deficiency, the resulting nonregenerative anemia often poses a significant threat to quality of life and survival time.

While hemodialysis removes impurities from the blood in renal-failure patients, it does nothing to counter the loss of EPO. In fact, there is some blood loss associated with the instru-

mentation used in hemodialysis, and this makes the anemia even worse.

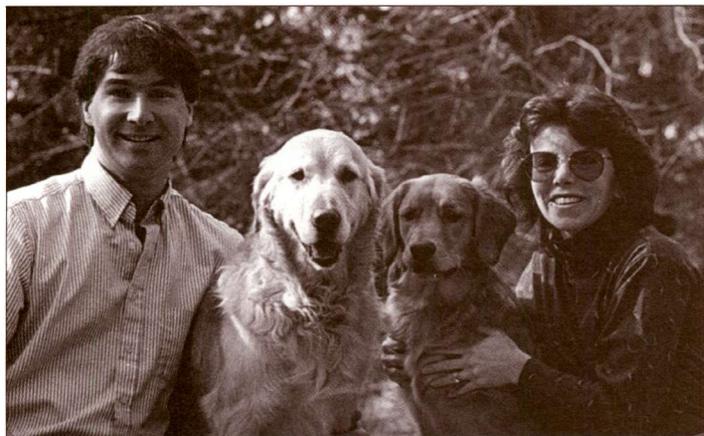
Unfortunately, the anemia contributes substantially to the clinical symptoms of lethargy, weakness, and loss of appetite commonly seen in these

patients. Until recently human dialysis patients had to undergo periodic blood transfusions to boost their red blood cell counts. That changed during the 1980s after researchers cloned the human erythropoietin gene and optimized methods of producing the protein in sufficient quantities for therapeutic use.

Recombinant human EPO became commercially available in 1989, the year before Teddy’s kidney disease was first diagnosed. For want of a better alternative, dogs are sometimes treated with the human hormone product, but MacLeod feared that the therapy would provide only temporary relief to her patient before his immune system recognized the human EPO as a foreign substance and developed antibodies against it. Worse yet, it appears that the antibodies that dogs develop to human EPO will usually cross-recognize and bind to whatever EPO their kidneys are still producing naturally. The result is a complete arrest of new red blood cell production in the bone marrow.

Teddy’s death from chronic renal failure was inevitable, but Kathy MacLeod was frustrated to think that his life might have been prolonged and much of his suffering eased if it had been possible to treat his anemia.

“Veterinarians are taught, ‘above all, do no harm.’ I wanted to try the human EPO but I was concerned that I would create problems, and Teddy didn’t need any more problems,” she recalls. Like many of us, she carried her frustration home from work and told her husband, Jamie, all about it. Unlike most other husbands, though, he was in a position to do more than lend moral support.



Jamie and Kathy MacLeod with their dogs, Ritz and Triever

James MacLeod is a veterinarian with a PhD in molecular genetics and advanced training in endocrinology. The year after Teddy's death in 1991, he joined the faculty of the Department of Physiology as a member of the James A. Baker Institute for Animal Health, where he is now an associate professor. Once he had established an independent research program, he saw an opportunity to do something meaningful for dogs like Teddy.

MacLeod's laboratory isolated the gene encoding canine EPO and expressed its protein in a highly purified form. The next step was to determine the safety and effectiveness of the product when used in dogs. MacLeod turned to John Randolph, a professor of clinical sciences in the college, for help in designing and overseeing the necessary clinical trials. "One of Professor Randolph's clinical interests is endocrinology, and as an internal-medicine specialist he has a much better grasp than I do of the disease process in chronic renal failure and how EPO would fit into the management of those patients," explains MacLeod. "His expertise and enthusiasm have been major assets in our clinical studies."

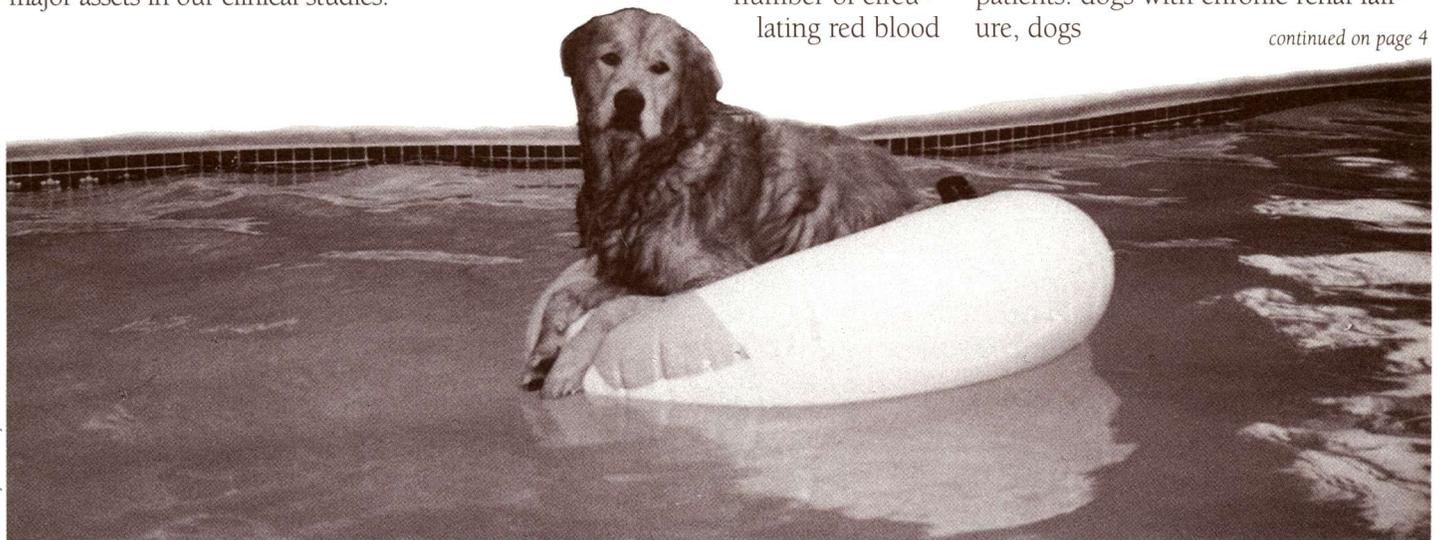
"EPO therapy isn't a cure for renal failure or cancer," says Randolph. "The value of EPO is that it can often be helpful in correcting the anemia associated with those conditions. In doing that you can improve the patient's appetite, sometimes to the point where diets that are more appropriate for their medical problems become more palatable. The activity level will improve. Our goal is to improve the patient's strength, activity, and appetite – in other words, the animal's quality of life."

The first task for MacLeod and Randolph was to establish the safety of recombinant canine erythropoietin, which they did by comparing its effects to those of the human product in a small study with normal dogs. The differences in the response of the group given the canine EPO and the group given the human EPO were consistently dramatic. Recombinant canine EPO stimulated red blood cell production in all seven of the dogs who received it, and did so without side effects. Most importantly, there was no evidence of red-cell aplasia, the precipitous drop in the number of circulating red blood

cells that signals a full-blown immune reaction against EPO in any form, whether introduced or naturally produced. In contrast, all six of the dogs treated with recombinant human EPO developed red-cell aplasia, four of them within four weeks. Because they were normal to start with, the dogs eventually recovered their ability to produce erythropoietin on their own after the human EPO treatments were halted. For dogs like Teddy whose natural ability to produce EPO is already compromised by disease, such complete recovery is not possible.

Once MacLeod and Randolph had shown that canine EPO was safe for dogs, the next step was to see whether it would be effective in treating dogs who were actually suffering from non-regenerative anemia. After a successful trial involving a small number of patients seen at Cornell, they organized a three-year, multi-center trial involving collaborators at Cornell and from veterinary schools and large referral hospitals across the country. Now in its second year, the study is evaluating the effectiveness of recombinant canine EPO therapy in three types of patients: dogs with chronic renal failure, dogs

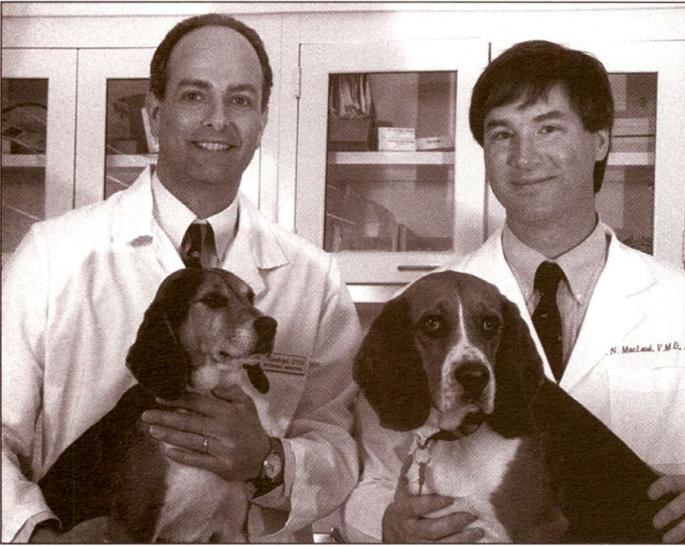
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*Teddy, the dog who inspired the development of canine-specific erythropoietin*

# First, Do No Harm

continued from page 3



Denise Weldon / CU Photography

John Randolph (l) and Jamie MacLeod (r)

with lymphosarcoma, and dogs whose red blood cell counts crashed after treatment with recombinant human EPO.

The research done so far by MacLeod and Randolph indicates that the product is safe and effective. The Cornell Research Foundation has secured a patent on the invention, and there's a compelling clinical need and widespread demand for it. So, on to market, right? Well, unfortunately, it's not nearly that simple. Although several veterinary pharmaceutical companies have expressed interest in marketing EPO for animals, Amgen, the company that owns the rights to recombinant human EPO, also retains the patent rights to the concept of marketing EPO for use in other mammals.

Recombinant human EPO is one of the most lucrative biotech drugs on the market, generating several billion dollars in annual sales worldwide. Though the risks associated with treating animals with human EPO are well known, the bottom line for the pharmaceutical giant is economic – there just hasn't been sufficient financial incentive to customize their product for use in com-

panion animals. Amgen's view has been that animals can continue to be treated with human EPO. Cornell hopes to change that view.

"Profits tend to be lower for veterinary therapeutics," says Jit Banerjee, a technology licensing associate for the Cornell Research

Foundation and the point man in Cornell's effort to get canine EPO into the hands of veterinarians. "But there is both an emotional need to treat sick animals and an economic need to get this drug on the market. We need a bold partner to help us bring our discoveries to the marketplace so that we can offer this therapy to the animal companions who bring so much joy to our lives." Adds Jim Severson, president of the Cornell Research Foundation, "Cornell respects Amgen's patent rights and we hope that, in working together, we can gain their understanding and cooperation."

But how can Cornell have a patent on this product if Amgen got there first? "The Cornell patent is an application patent," MacLeod explains. "The real substance of this patent is the use – we have now demonstrated that recombinant canine EPO successfully answers the immunogenicity problem in dogs. The clarity of our safety and efficacy data was a likely factor in the awarding of the patent."

Canine EPO is so effective and safe for use in dogs that MacLeod can't help being optimistic about the ultimate

success of their efforts. "Because the risk of immunogenicity is so high, veterinarians are reluctant to use recombinant human EPO until the anemia is life-threatening. When a canine or feline patient reaches a point where they need blood transfusions in order to survive, the benefits of human erythropoietin therapy probably outweigh the substantial risk. From then on, the animal is living on borrowed time, so the treatment is justified for as long as it is effective. But if there were a *safe* EPO product to use, veterinarians would be able to intervene much earlier and really benefit the patient's quality of life and survival time. Also, treatment would be justified for many more animals. That is why I think it will happen – it's just so compelling how species-specific EPO preparations improve the risk-benefit ratio."

MacLeod has now used a similar scientific strategy to develop a cell line that makes high levels of feline EPO very efficiently in cell culture, and he and Randolph are preparing to test recombinant feline EPO in cats. "Cats seem to live a lot longer with chronic kidney failure than dogs," says Randolph. "For some reason they tolerate it a lot better. As in dogs, human EPO can cause immunogenicity problems in cats. For these reasons cats would also benefit from species-specific EPO therapy."

As Randolph sums up the bottom line, "We've answered some scientific questions, but our goal in getting involved in this project has always been to improve the welfare of dogs and cats. We will not feel successful in all the work we've done until this product becomes available to practicing veterinarians." ■

# Caring on a Higher Plane

**How far would you go to help change the world? How high would you climb to extend a hand to people in need? If you were Karen Lafky Stoufer, DVM '78, you would go to the ends of the earth.**

Karen Stoufer had a nice life in suburban California with her own housecall practice and a family – husband Ron, a hydrogeologist, and daughters Lisa and Kathryn, aged one and four years – when she got the call eleven years ago. “Are you ready to go to Nepal?” asked the representative from the Christian Veterinary Mission. After some deep reflection and hurried fund-raising, Karen and Ron Stoufer packed up their daughters, said good-bye to their families and friends, and moved a world away.

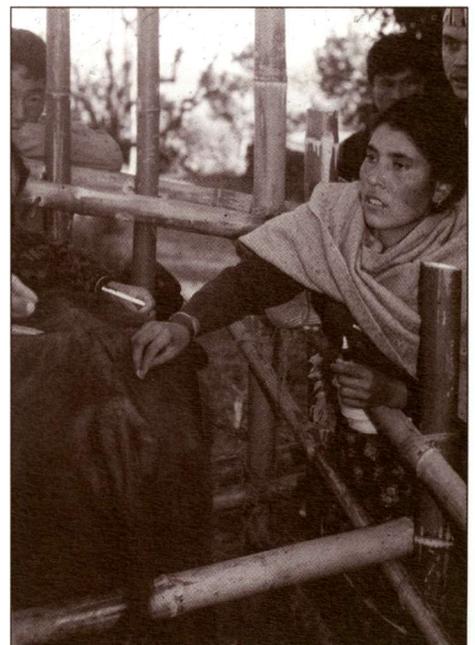
Nepal is the world’s only official Hindu state. Although Christianity has been openly practiced since a 1990 revolution brought democracy to Nepal, it is still illegal to convert anyone to another religion. Stoufer’s purpose in going to Nepal was not to preach but to improve the plight of the rural poor. “Working as a veterinary missionary means taking a stand with the poor and the marginalized of society in their struggle for survival and for justice,” she explains. “It is not just in giving charity but in touching people’s lives that we can make a real difference in our world. And what better way to touch people than through their livestock?”

Stoufer elaborates: “In the U.S., when a farmer’s cow dies, there’s an economic value to that loss. But in Nepal and much of the developing world, if a farmer’s cow or water buffalo dies, his children may die. How can you put a dollar value on that? Or measure the value of your contribution if your veterinary skills prevent that death? If a poor family’s animal dies,” she continues, “there will be no way to pull the hand-hewn plow, no manure to fertilize the crops, no meat or milk to sell for much-needed cash to buy medicine for an ill family member or to pay fees to send a child to school.”

But how can one veterinarian ever save enough of these animals in a desperately poor and isolated country with an abysmally low rural literacy rate and some of the most formidable terrain in the world? Simply put, she can’t. So instead of giving a man a fish, as the proverb goes, she teaches him how to fish. Or, in landlocked Nepal, how to doctor his (or, very importantly, her) own livestock. Karen Stoufer went to Nepal to train “barefoot veterinarians,” rural Nepalese who could serve as village animal health workers and in turn train others.

“I knew that the best way to learn is from hands-on practice with real cases, not lectures or rote memorization, and I used that principle extensively in my training,” says Stoufer. “I also made it a principle to refuse to treat animals myself, but to use each case as a training opportunity. If I were to allow people to become dependent on me, they would only be worse off when I left. But if I focused all my energies on training, people would be enabled and empowered to stand on their own.”

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## Caring on a Higher Plane

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"I thank God for a well-rounded Cornell education," she continues. "I may not have known much about buffalo, but I knew how to think analytically and apply principles to new situations. Overnight, Francis Fox's sessions on physical diagnosis went from something I had to know to get a license to one of the most important components of my background that I had to offer."

After six months of intensive training in Kathmandu to learn to speak Nepali, the Stoufers established their base in nearby Pokhara, a village in the center of the narrow ribbon of timberland and terraced fields and pastures that butts up against the mighty Himalayas to the north. For the next two years she hiked all over the mountains with her Nepalese colleagues, training and encouraging local people to serve their communities as village animal health workers. She then spent another two and a half years working to make the training courses more accessible to the poorest communities.

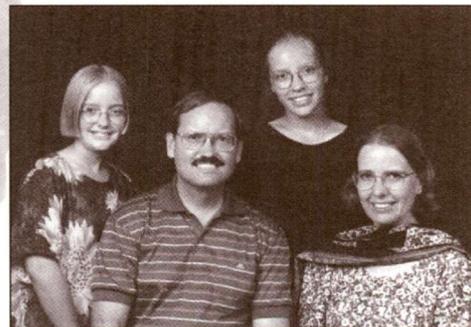
Once she had those programs ready to leave in the hands of Nepalese colleagues, Stoufer and her family moved on to the Okhaldhunga District in the east, to a remote village three days' walk from the nearest road. "For four years we worked with grassroot communities," she recalls, "empowering them to take control of their own lives and to break out of the cycle of poverty and

*In stunning contrast to their low-tech subject matter, the photographs for this story came to us courtesy of Ron Stoufer and a satellite up-link over the Indian Ocean as e-mail attachments from Nepal. With the exception of the Stoufer family portrait at right, all, including our magnificent cover photo, were taken by Ron Stoufer.*

*Previous page: A village animal health worker prepares to vaccinate a water buffalo.*

*This page: (from left) Lisa, Ron, Kathryn, and Karen Stoufer*

*Next page: (from left) Karen Stoufer explaining a pig-raising project; worming a goat in village animal health worker training; Stoufer leading a discussion about animal care.*



despair. One of our most powerful tools was livestock-raising projects.”

The farmable land in the central hill region of Nepal is fertile but very limited. According to Stoufer, an average of 15 cattle graze on every five acres – land that can adequately support only two. But the problems go well beyond the availability of pastureland.

“The culture here is very, very fatalistic,” says Stoufer. “I met one woman once who had a water buffalo that she milked (by hand, of course. It’s all by hand.) I asked her what health problems she had had with her animals. ‘None,’ she told me. ‘Never had any problems.’ I asked her how many calves she had raised. ‘None,’ she said. ‘They all die within a couple of months after birth.’ To her, this was not a problem. This was fate, just the way life is. She didn’t believe me that it could possibly be different.”

“In another case,” she adds, “I met a man with an 18-year-old cow. He had never milked her. She had never been pregnant. He kept her for manure to fertilize his corn. Didn’t know he could have had more.”

“People adhere to the Hindu belief that their current situation is the result of their previous life,” explains husband Ron Stoufer. “Therefore, if they have difficulties, they are because they did something wrong in their previous life.

People think that nothing can be done to change their lives, because their lives are determined by fate.”

“If a person believes that everything is determined by the gods,” continues Karen Stoufer, “they cannot be convinced of the value of a vaccine or a worm medicine, for either their animals or their children. Our main work is not just animal health, but opening people’s minds to the possibilities. We teach them to believe in themselves, in their ability to make a real difference in their own lives.”

An area of special concern for both Karen and Ron Stoufer is the plight of women in Nepal. “If a woman is oppressed or beaten,” says Ron Stoufer, “she accepts that as what she is due from her previous life. If she had lived a good previous life, she would have been born a man, and not had to endure these difficulties.” The Stoufers have focused especially hard on empowering women through livestock training and encouraging them to form community self-help groups. When asked what her most meaningful experience in veterinary medicine has been, Stoufer answers, “watching a young woman who grew up in a six-by-eight-foot bamboo shack, oppressed and devalued, become one of the most respected members of her community through the training we gave her to become a village animal health worker. We are

seeing change in society as well as in animal health.”

As a hydrogeologist, Ron Stoufer is able to ease the burdens of women in some tangible ways – by advising about the care and maintenance of gravity-flow water systems and the importance of working together. In villages with no water, women can spend hours a day traveling back and forth to carry water from the nearest source. When women work cooperatively – a notion taken for granted by Westerners but one that is foreign to the Hindu culture of Nepal – they are able to build drinking water systems that free up their time for literacy classes and other development activities.

These days Karen Stoufer serves as the director of the Rural Development Department at the headquarters of the United Mission to Nepal in Kathmandu. As such, she directs seven extensive rural community training and development projects and manages a staff of 175. In addition to her direct responsibilities, she serves on the senior management committee for all 40 of UMN’s projects.

Daughters Kathryn and Lisa are now 15 and 12, and thriving. They attend the Kathmandu International Study Center, a UMN-run school. The Stoufers plan to bring Kathryn back to the U.S. in June of 2003 for her college years. They

*continued on page 10*



# CUHA Implements Clinical Career Ladder Program

Imagine a hospital without nurses. If you feel sick just thinking about it, then you understand how essential they are to patient care and the clinical operation of a hospital. Well, veterinary technicians are to a veterinary hospital what nurses are to a human hospital. And working at a university hospital adds another, greater dimension to their responsibilities.

"We do everything from administering anesthesia to scrubbing sinks to supervising students to administering treatments," says Debra Bain, a licensed veterinary technician (LVT) who has worked at Cornell for 24 years. "Guiding the students is probably 80 percent of our job," adds colleague Deborah Watrous. Technicians set up procedures, take medical histories from clients, outline patient care and answer their questions, show students how to put in catheters or start an IV, assist students in anesthesia, manage the blood-donor program, and have to know when it's appropriate to stand back and let a student struggle with an emergency and when it's necessary to step in. LVT Laura Barlow puts it in a nutshell: "We do everything but prescribe, diagnose, and perform surgery."

Despite the inarguable importance of their contributions to patient care and student education, veterinary technicians – like nurses before them – are everywhere facing a struggle to be acknowledged as professionals. The Cornell University Hospital for Animals (CUHA) has implemented a formal system, called the Clinical Career Ladder Program, to provide peer recognition and incentives to LVTs.

The Clinical Career Ladder Program was created by a team of Cornell LVTs and human resource professionals, who modeled the program on similar



Robert Barker / CU Photography

Veterinary technicians Laura Barlow (left) and Deb Watrous (right) administer chemotherapy to Bubba, a basset hound.

ones that have been established for nurses and other staff in human hospitals. Participation in the program is voluntary, and technicians must apply for promotion to each new level.

"The career ladder is a way to recognize those individuals who take on extra responsibility to provide outstanding patient care, support the college's educational mission, and educate their peer group," explains Bonita Voiland, assistant dean of hospital operations. "It also provides a way to compensate them for exceptional performance without placing them in management positions that remove them from hands-on patient care."

"Our purpose was to give our profession an area to grow within the CUHA and to give technicians here room to expand their skills and responsibilities. We want to recognize technicians who are very well rounded in every aspect of their jobs and who have also gone out of their way to bring outside information, ideas, products, or con-

tacts back to Cornell for the benefit of their peers," says Barlow, who was a member of the steering committee that developed the career ladder program.

All licensed veterinary technicians at Cornell University – and throughout the state of New York – are required to have graduated from a two- or four-year program accredited by the American Veterinary Medical Association or approved by the state's education department. The training is much like nursing school, but with the study of farm, laboratory, companion, and exotic animals – including primates – added to the curriculum with technical subjects like anesthesia, surgery, and radiology and core academics like chemistry and English.

Technicians in New York are also required to pass a national qualifying examination and be licensed by the state. Before being hired by Cornell, LVTs must also have completed an externship of at least 40 hours, and they typically have at least two years

*continued on page 10*

# Saving an Alpaca with a Pack of Problems

**"To sit there in the stall holding that baby was the most moving experience of my life," says Meyer. "It was the highlight of my whole time here at Cornell."**

When KeyKey was brought to the Cornell University Hospital for Animals, she was in a sorry state indeed. Her owners had found their alpaca downed in the field after a thunderstorm, and she arrived mud-stained, shivering, traumatized, paralyzed – and pregnant. Rachel Meyer, a fourth-year veterinary student, had just started her rotation in large-animal medicine that morning, working under the supervision of resident Jerome VanBiervliet and professor Thomas Divers.

From the first day of their first year at Cornell, veterinary students are exposed repeatedly to clinical concepts as they are embodied in real patients. By studying and analyzing actual hospital case histories, students become very good at sizing up a problem – knowing which questions to ask, where to go to find answers, and what to do with the information. By the time they reach clinical rotations, they are often quite adept at problem-solving. Meyer was as well prepared as a veterinary student could be for this and the other cases she would encounter over the course of her rotation.

Meyer and Divers arrived at a differential diagnosis without much difficulty.

KeyKey was infected with *Parelaphostrongylus tenuis*, a nematode that is present wherever there are white-tailed deer. The deer have little problem with the parasite, but they shed it in their feces, where snails and slugs pick it up. It is common for ruminants grazing in fields to become infected after accidentally ingesting the intermediate hosts, and most animals recover after treatment. But New-World camelids – alpacas and llamas – have a tendency to experience serious neurologic complications including blindness and paralysis, which can develop even after seemingly successful treatment. Once an alpaca is down and unable to rise even with assistance, the chances of recovery are so poor that many animals are euthanized at that stage. KeyKey's owners wanted everything possible done to save her.

Early, aggressive treatment with anti-inflammatory drugs is essential to getting the upper hand in cases of neurological involvement in *P. tenuis* infection, but the treatment can cause a pregnant animal to abort. Divers advised Meyer on combinations of non-steroidal drugs that might kill the parasite without killing the fetus. Success in that effort would carry with it a second concern, however – the danger of an immune reaction to the toxins released by the killed worms remaining in the alpaca's spinal canal. The resulting inflammation can cause permanent damage to the spinal cord.

Over the course of the next two weeks of KeyKey's hospitalization, Meyer had several conversations with associate professor Mary Smith, a Cornell theriogenologist who is something of a legend among goat aficionados, and David Pugh, an alpaca expert at Auburn University who studied under Divers. "I was encouraged and given the free-

*continued on page 10*



Alexis Wenski-Roberts / Image Lab

## Saving an Alpaca

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dom to consult, and that was a big issue for the success of this case,” says Meyer. “Dr. Divers is one of the clinicians who really empower the students.” Pugh maintained that “a downed alpaca is not a dead alpaca.” At his suggestion, Meyer brought in a physical therapist, licensed veterinary technician Lynn McGonigle, and put KeyKey in a sling for therapy two to three times a day. It made a crucial difference.

Since the alpaca wasn't eating well, Meyer went online after her shift to find out what the animals like to eat. She found out from an alpaca chat group that the animals are especially fond of blackberry leaves. She found a place where they were growing and

picked them every day on her way to work. Meyer also learned that alpacas can quite literally die from loneliness if they don't have a companion. First she tried putting a goat in with KeyKey, with indifferent results. Then someone offered to lend the hospital a female alpaca – the foul-tempered, spit-lobbing kind of alpaca. The people in the clinic had to watch their step, but KeyKey thought she was just great. She started to perk up.

“Every day was a new progression, a new miracle. The first time she stood without the sling, we all cheered. By the end of my rotation she could stand on her own.”

On the last night of her two-week rotation, Meyer caught a glimpse of something wriggling in the straw. KeyKey had given birth.

“We cleaned her up and there was this beautiful, snow-white, perfect baby,” she says, still marveling over the experience six weeks later. “She nursed just fine. We thought she must be premature, but she wasn't – she had teeth and was able to stand within 15 minutes.” Her owners named the baby Milagro, which means *miracle* in Spanish.

“To sit there in the stall holding that baby was the most moving experience of my life,” says Meyer. “It was the highlight of my whole time here at Cornell.” ■

## Career Ladder Program

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of prior work experience in their field.

The expectations for technicians at Cornell are high. Even at entry level, technicians are required to meet a demanding set of standards for behavior as well as technical competence. Ranking above level I requires annual evaluation and renewal. To reach the fourth and highest level, a technician must maintain mastery of all the requirements of the preceding levels, continue to show a high degree of pro-

fessionalism, serve as an active mentor of another technician, and assume four additional responsibilities, such as preparing technical policies and procedures, creating and maintaining Web pages pertaining to their service or to technical learning, and organizing and presenting community education programs and continuing education programs to groups outside of Cornell.

“We decided that it had to be hard to be worthwhile,” says Bain, one of only

two technicians so far (the other is Watrous) to have achieved level-III ranking in the program. Technicians must be ranked level III for a minimum of one year before being promoted to the fourth level; Bain and Watrous will become eligible to apply for promotion this summer. ■

## Caring on a Higher Plane

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have not yet decided whether they will remain here permanently after that.

When asked on an alumni questionnaire last year what she saw as the greatest challenge facing veterinary medicine in the next decade, Karen

Stoufer answered, “to continue to provide a breadth of education in a world of specialists so vets can continue to be flexible and relevant in a changing environment.” It's hard to imagine anyone anywhere who would know better than

she does just how much it means to be flexible and relevant.

By the way, the center in Pokhara is currently advertising for a veterinarian. ■

# Honoring Pets and People We Love

## MEMORIAL GIFT PROGRAMS

When people and pets touch our lives in special ways, we seek meaningful ways to honor those relationships. At Cornell's College of Veterinary Medicine, the Memorial Gift Programs provide opportunities to remember animals and the people who love and care for them while supporting hospital services for patient care and medical research that benefits animals everywhere.

Veterinary practitioners frequently use our memorial gift programs as a caring way to acknowledge the death of a client's pet. For many clients, the personal letter of notification that they receive becomes a cherished keepsake, a remembrance of both a beloved pet and a special veterinarian. Over 500 practices currently participate in these programs.

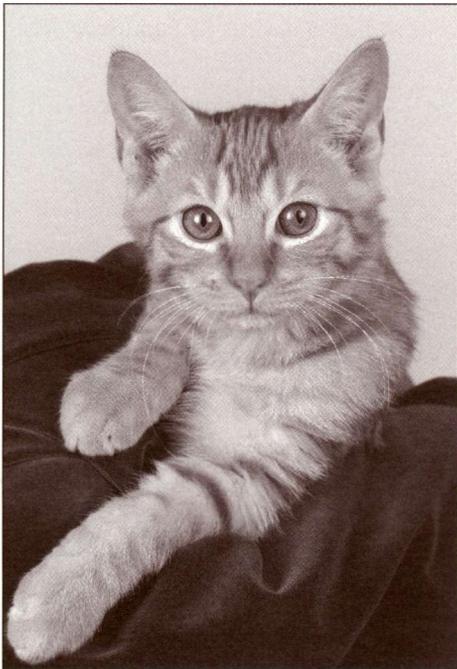
Many who have experienced the death of a pet find comfort in making gifts to honor the lives of their special companions. Our memorial gift programs also offer a most appropriate way to celebrate those whose dedication and love for animals inspire and challenge others to care as much. Every gift is promptly and thoughtfully acknowledged to the family of the pet or person honored.

Those who specifically wish to support hospital services and patient care can make a gift designating either the Cornell University Hospital for Animals (CUHA) or the Cornell Comparative Cancer Program. CUHA blends state-of-the-art facilities with exceptional veterinary medical care. The Comparative Cancer Program integrates top-flight basic research, expert clinical care, advanced veterinary training, and public outreach to promote awareness, prevention, and early diagnosis.

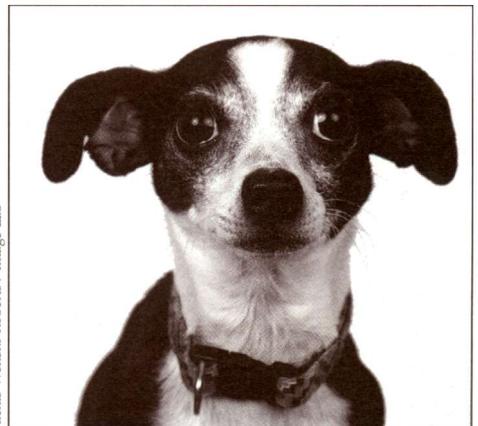
The college also offers mechanisms for supporting two special research programs, the James A. Baker Institute for Animal Health and the Feline Health Center. The Baker Institute has achieved world renown for 50 years of major contributions to the understanding, prevention, and treatment of canine and other animal diseases. Now in its 25th year, the Feline Health Center serves as a national clearinghouse for information outreach to cat owners and veterinarians. Gifts to the center also support a growing research grant-funding program.

Whatever the connection, the college's memorial gift programs involve many people each year reaching out to honor people and pets they have loved while at the same time providing needed financial resources for making a significant impact on effective treatments and improved health for animals of all kinds – even the human kind.

For more information about making a memorial gift, please write to the Office of Public Affairs, Box 39, College of Veterinary Medicine, Cornell University, Ithaca, NY 14853; you may also call (607) 253-3744 or send an e-mail message to [cvmopa@cornell.edu](mailto:cvmopa@cornell.edu). ■



Alexis Wenski-Roberts / Image Lab



Alexis Wenski-Roberts / Image Lab

# CUHA Farrier Joins Distinguished Company

Michael J. Wildenstein, resident farrier at the Cornell University Hospital for Animals, was recognized recently with a diploma from the Worshipful Company of Farriers in London, England. The award is a professional honor; the company, established in 1356 and incorporated by charter of King Charles II in 1674, is renowned for its high standards for the award, which is based on years of professional farriery experience and a rigorous qualifying examination.

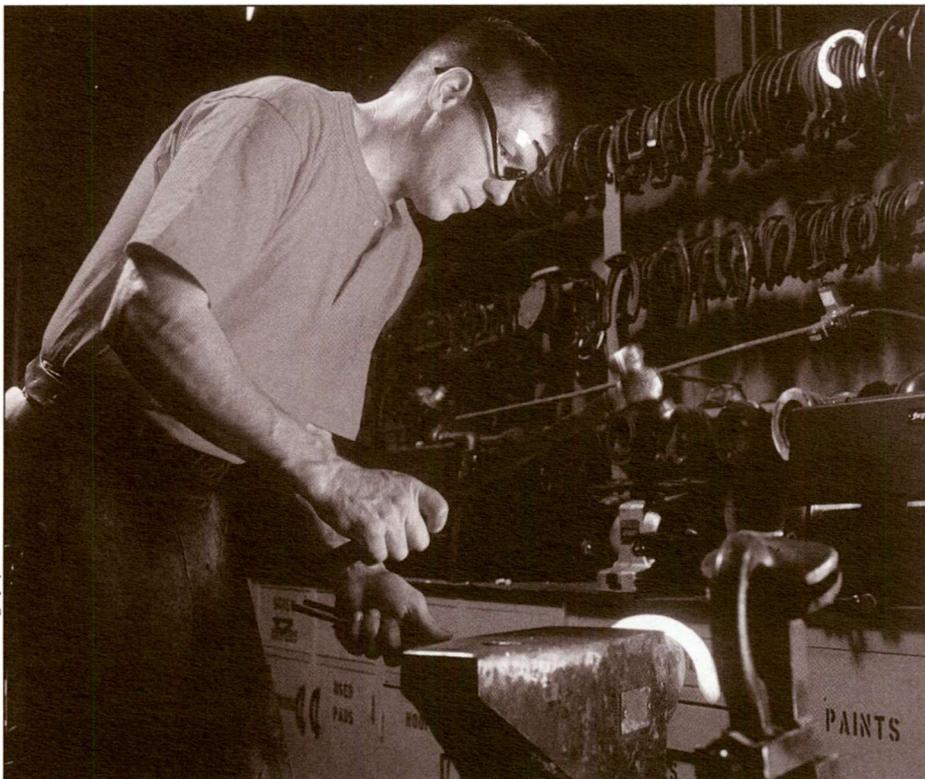
Wildenstein has been a farrier for 24 years, ten of them at Cornell. He had attained the highest level of certification available in this country, that of journeyman farrier, and sought the British diploma as a mark of greater professional distinction. He is currently working toward achieving the highest honor that can be accorded a farrier, designation as a Fellow of the Worshipful Company of Farriers.

Farriers trim the hooves of horses and fit them with shoes, typically pre-fabricated, that they heat in a forge and shape on an anvil with a hammer. Because Wildenstein works with horses that have problems with lameness or disease, he custom-designs many of the shoes he uses.

Cornell's College of Veterinary Medicine was the first veterinary college in the nation to offer a farriery course, and it now has the only program remaining at a veterinary college.

In addition to working with equine patients, Wildenstein teaches a four-month, eight-hour-a-day course that draws veterinarians as well as farriers, some from the far reaches of Europe and South America. He frequently contributes articles for publication in professional journals and he organizes and hosts the very popular farriers conference held each November at Cornell. According to Wildenstein, demand for farriers has increased in the past several decades as horse numbers have grown and horse owners have become more aware of the health needs of their animals.

Wildenstein also recently co-authored a book, *Draft Horses, an Owner's Manual*, with Beth Valentine, DVM '81, PhD, a pathologist and former faculty member of the college. The 236-page paperback, which is available online at [www.ruralheritage.com/bookstore](http://www.ruralheritage.com/bookstore), covers routine health care and monitoring and nutrition and includes a head-to-tail review of common ailments and other equine health issues. ■

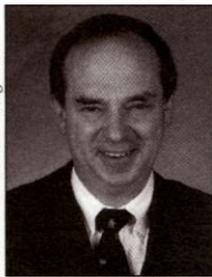


Michael Wildenstein at work

Robert Barker / CU Photography

# People, Honors, and Awards

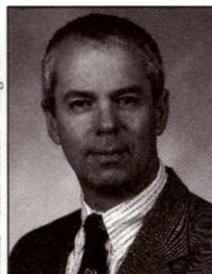
Alexis Wenski-Roberts / Image Lab



**Douglas Antczak**, the Dorothy Havemeyer McConville Professor of Equine Medicine and professor of immunology, recently received the 2000 Distinguished Veterinary Immunologist Award from the American Association of Veterinary Immunologists (AAVI). Antczak is the director of the college's James A. Baker Institute for Animal Health. Antczak's specialty is equine reproductive immunology, and he is an internationally recognized expert on the equine trophoblast and the major histocompatibility complex of horses. The AAVI presented Antczak with the award on November 13 at the Conference of Research Workers in Animal Diseases in Chicago.

**Paul Bowser**, a professor in the Department of Microbiology and Immunology, was elected vice president of the Fish Health Section of the American Fisheries Society. He will become president-elect in September 2001 and serve a one-year term as president beginning in 2002. Bowser's research concerns a retrovirus, walleye dermal sarcoma virus, that causes skin tumors in fish.

Alexis Wenski-Roberts / Image Lab



**Robert Gilbert**, associate dean for clinical programs and professional service and associate professor of theriogenology, has been elected as a Distinguished Practitioner in the National Academies of Practice in Veterinary Medicine. Gilbert is a diplomate of the American College of Theriogenologists and a member of the Royal College of Veterinary Surgeons.

Founded in 1981, the National Academies of Practice is composed of ten academies representing health care practice in the areas of dentistry, medicine, nursing, optometry, osteopathic medicine, pharmacy, podiatric medicine, psychology, social work, and veterinary medicine. Only 150 active members may be elected to each academy.

*continued on page 14*

## National Academy of Veterinary Medicine

The college is very well represented by faculty and alumni who have been elected to the National Academy of Veterinary Medicine. **Distinguished Practitioners** include private practitioners: Stanley Aldrich, DVM '50 (deceased); N. Joel Edwards, DVM '64; Stephen Ettinger, DVM '64; Jay Geasling '71, DVM '75; Richard Grambow, DVM '57, chairman of the College Advisory Council; Jean Holzworth, DVM '50; John B. McCarthy, DVM '52; Anthony Palminteri, DVM '57; James Peddie, DVM '62; Delano L. Proctor, Jr., DVM '42; and Harold Zweighaft, DVM '56.

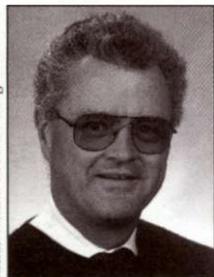
**Members drawn from academia, government, and industry include:** William J. Donawick, DVM '63, professor of veterinary surgery, University of Pennsylvania; Robert Kahrs, DVM '54, PhD '65, dean emeritus of the University of Missouri College of Veterinary Medicine; Robert Marshak, DVM '45, dean emeritus of the University of Pennsylvania School of Veterinary Medicine; Mark L. Morris, Jr., DVM '58, Morris Animal Foundation; Edward Rhode, DVM '47, Department of Medicine and Epidemiology, University of California, Davis; Anthony Schwartz, DVM '63, associate dean, Tufts University School of Veterinary Medicine; John B. Tasker, DVM '57, PhD '63, Michigan State University (retired); William C. Wagner, DVM '56, PhD '68, Principal Veterinary Scientist, U.S. Department of Agriculture; and Robert H. Whitlock, DVM '65, PhD '70, professor, Department of Clinical Sciences, University of Pennsylvania.

**Current and former Cornell faculty members include:** Leland Carmichael, PhD '59, John M. Olin Professor of Virology, Emeritus; Brian Farrow, former professor and chairman of the Department of Clinical Sciences; Francis Fox, DVM '45, professor of large-animal medicine, emeritus; Robert Gilbert, associate dean for clinical programs and professional service and associate professor of theriogenology; Robert Kirk, DVM '46, professor of clinical sciences, emeritus; Donald Lein, DVM '57, chairman of the Department of Population Medicine and Diagnostic Sciences and director of the New York State Diagnostic Laboratory; Franklin Loew, '61, DVM '65, former dean of the college; Robert Phemister, DVM '60, former dean of the college; Stephen J. Roberts, DVM '38, professor of large-animal medicine, emeritus; John Saidla, former director of continuing education; Donald Smith, dean of the college; and Bud Tennant, James Law Professor of Comparative Medicine.

**Two of six Distinguished Scholars of the National Academy of Veterinary Medicine are also college alumni:** Leroy Coggins, PhD '62, retired chairman of the Department of Pathobiology, North Carolina State University; and Fredric Scott, DVM '62, PhD '68, director emeritus of the Feline Health Center and professor of virology, emeritus.

## People, Honors, and Awards

continued from page 14



Alexis Wenski-Roberts / Image Lab

**Richard Hackett** has been named chairman of the Department of Clinical Sciences after serving as acting chairman since 1999. Hackett, a professor of surgery and a diplomate of the American College of Veterinary Surgeons, received his veterinary degree *cum laude* from the Ohio State University and a Master of Science degree from Colorado State University. He joined the faculty of the college in 1976.

Hackett specializes in equine abdominal, urogenital, and respiratory surgery, wound management, and reconstructive surgery. His research interest is respiratory sports medicine, particularly upper-airway obstructive disorders and exercise-induced pulmonary hemorrhage.

**Francis Kallfelz**, James Law Professor of Medicine (Nutrition) is currently serving on the Subcommittee on Cat and Dog Nutrition of the Committee on Animal Nutrition of the National Research Council. The nine-member subcommittee is conducting a new study on nutrient requirements of cats and dogs.



Courtesy C. Short

**Charles Short**, professor of anesthesiology, emeritus, has been named a recipient of the Wilford S. Bailey Distinguished Alumnus Award at Auburn University's College of Veterinary Medicine. Short was a founding member of the American College of Veterinary Anesthesiologists and served as its president in 1970. He is also a founding member of the Association of European Veterinary Anesthetists.

**Brian Summers**, professor of pathology, has been inducted as a Fellow of the Royal College of Pathologists in recognition of his contributions to veterinary neuropathology. He is one of very few pathologists in the world with membership in both the American College of Veterinary Pathologists and the Royal College of Pathologists.



Courtesy M. Kotlikoff

## New Faculty

**Michael I. Kotlikoff, VMD, PhD** was appointed professor of physiology and chairman of the Department of Biomedical Sciences effective July 1, 2000. Before coming to Cornell, Kotlikoff was chairman of the Department of Animal Biology and director of the Center for Animal Transgenesis and Germ Cell Research in the School of Veterinary Medicine at the University of Pennsylvania. He held a joint appointment in the Department of Medicine in the School of Medicine.

After graduating first in his veterinary class at Penn in 1981, Kotlikoff earned a PhD in physiology from the University of California, Davis. He returned to Penn in 1984 as a postdoctoral fellow in the School of Medicine. One year later, he was appointed to the faculty of the Department of Animal Biology in the School of Veterinary Medicine. He was appointed professor in 1995 and department chair in 1996.

Kotlikoff heads an internationally recognized research group working on ion-channel signaling in muscle and non-muscle cells. His research has led to an enhanced understanding of the molecular interactions underlying smooth-muscle excitability.

In addition to his own research, Kotlikoff directs the Cornell Core Transgenic Mouse Facility. Due to begin operation on April 1, the 12,000-square-foot facility will in time house up to 30,000 mice bred with genes selectively added or deleted. The creation of this university-wide resource has enabled departments in the colleges of Veterinary Medicine, Arts and Sciences, and Agriculture and Life Sciences to begin recruiting faculty whose research requires access to transgenic mouse facilities. Estimates suggest that within five years more than 40 Cornell faculty members will be significant users of the facility.



**Alexander Nikitin, MD, PhD**, assistant professor of pathology in the Department of Biomedical Sciences, came to Cornell from the Institute of Biotechnology at the University of Texas Health Science Center, where he was a postdoctoral fellow and then an assistant professor in the Department of Molecular Medicine. His area of research is experimental pathology, with a focus on the development and characterization of animal models for human cancer and proliferative vascular disorders. Nikitin earned his medical degree at the Pavlov First Medical Institute and his doctorate at the Petrov Research Institute of Oncology, both in St. Petersburg, Russia.

**Kenneth M. Rassnick, DVM '93** has joined the Department of Clinical Sciences as an assistant professor of oncology. A graduate of Cornell's College of Veterinary Medicine, Rassnick received his specialty training in oncology as a resident at the Animal Medical Center in New York City. Since 1996 he had been a clinical assistant professor in the Harrington Oncology Program at Tufts University. He is a diplomate of the American College of Veterinary Internal Medicine, specialty of oncology.

**James Brett Woodie, DVM, MS**, assistant professor of large-animal surgery in the Department of Clinical Sciences, received his veterinary training at North Carolina State University. He earned a Master of Science degree while serving as a resident in equine surgery at the Ohio State University. Prior to coming to Cornell Woodie worked as a clinical instructor and research associate in equine surgery at the Marion duPont Scott Equine Medical Center of Virginia Polytechnic Institute and State University. In his brief career he has already received three awards for outstanding teaching, two of them from the student chapter of the American Veterinary Medical Association at Ohio State and a third award given jointly by Pfizer Animal Health and the Ohio State University Department of Veterinary Clinical Sciences. Woodie is a diplomate of the American College of Veterinary Surgeons. ■

## Alumnus Jack Mara Retires



Courtesy Hills Pet Nutrition

Noted alumnus John L. (Jack) Mara retired in November from a distinguished career that spanned nearly 50 years of service to veterinary medicine. As Director of Veterinary Affairs at Hill's Pet Nutrition, Inc., Mara created and instituted a program to add clinical nutrition to the curriculum at many veterinary schools and helped create 19 graduate-PhD residency programs. He was also instrumental in the establishment of the American College of Veterinary Nutrition, of which he is an Honorary Diplomate.

Following graduation from the college in 1951, Mara served a one-year internship in small-animal surgery at Cornell before being hired by Laurence W. Goodman, Sr., DVM '26, owner of the North Shore Animal Hospital in Manhasset, New York. Goodman was a classmate and friend of Mark L. Morris, Sr., DVM '26, who created Hill's Prescription Diets®. Mara opened his own practice in Huntington, New York in 1955; when he sold the practice in 1979, Hill's immediately offered him a position, and he embarked on a highly successful second career at the age of 55.

In recognition of Mara's lifelong commitment to the advancement of companion animal health, the John L. Mara Endowment for Comparative Oncology has been established at the College of Veterinary Medicine at Cornell University. Proceeds from the endowment will support programs designed to enhance the management of cancer in companion animals, with special emphasis on prevention, medical and nutritional management of the cancer patient, and education for animal owners and veterinarians. As Mara maintains, "There is no disease that does not depend on nutrition in its treatment."

# Coming Events

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## **FEBRUARY**

**11 - 15**

Western States Veterinary  
Conference,  
Las Vegas, Nevada

## **MARCH**

**23- 25**

93rd Annual Conference for  
Veterinarians,  
Cornell University

## **APRIL**

**7**

35th Annual Open House,  
Cornell University

## **MAY**

**26**

College of Veterinary Medicine  
Hooding Ceremony

**27**

Cornell University Commencement

## **JUNE**

**7 - 10**

Reunion Weekend

## **OCTOBER**

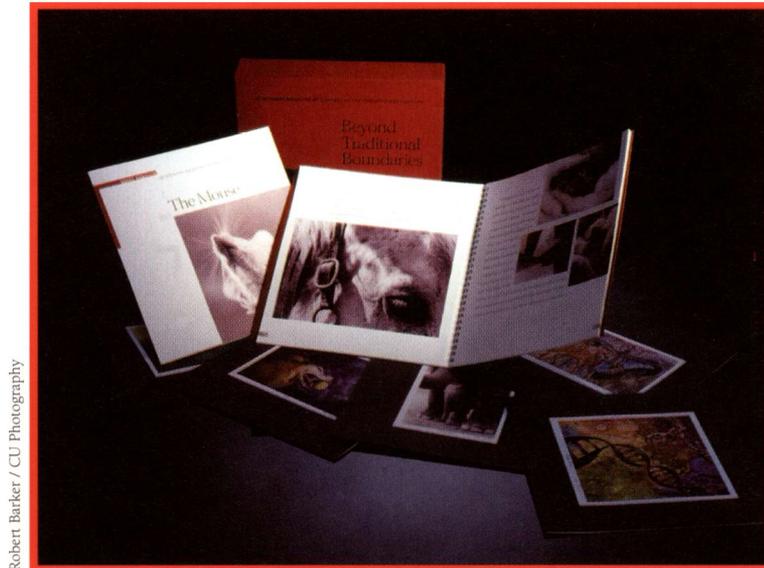
**12 - 14**

Homecoming Weekend



Charles Harrington / CU Photography

The judges called it  
“...a stunning piece of work...  
[that] speaks volumes for the staff  
and the institution itself.”



Robert Barker / CU Photography

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Gold Award – Individual Institutional Relations Publications  
Silver Award – Photography



Charles Harrington / CU Photography

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