



C O R N E L L

# Veterinary Medicine

WINTER 1996-1997

## Expanding Horizons Program Does Just That

**F**or twenty years now a mysterious disease has been afflicting cattle in the cloud forests of northern Ecuador. Turns out it's probably nothing more than an enzootic hematuria resulting from chronic ingestion of bracken fern. The diagnosis, made in collaboration with Peace Corps volunteer Steve McLaughlin DVM '91 and clinicians here at the college, was but the first of many to challenge second-year veterinary student Maria Vasquez-Chadam.

Solar keratitis, brisket disease, vagal indigestion, listeriosis, vesicular stomatitis, foot and mouth, pseudo cowpox, and brucellosis—Vasquez-Chadam saw, and treated, all of these diseases last summer when she assisted Ecuadorian veterinarians and Peace Corps volunteers through the Expanding Horizons Program.

As a diagnostician, Vasquez-Chadam made such an impression on rancher Stuart White (she had helped him investigate what appears to be an acute form of

Sarcocystosis in the alpacas he is raising at a high-elevation hacienda in southern Ecuador) that he asked her to return to perform controlled studies with his animals.

Despite her hard work, this 30-year-old



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native of Cedar Rapids, Iowa, still had time to attend a birthday celebration for newly made Ecuadorian friends, join in the fun on local festival days, learn to make corn tortillas from the local family with whom she stayed, hike through Incan ruins, and speak on a radio show—all the while perfecting her Spanish.

"The impact of this trip will hold with me forever," Vasquez-Chadam says. "I was impressed by the difficulty of managing animals at high elevations and of doing epidemiology in the Third World. I was reminded of the importance of basic veterinary medicine and of communication. I felt empowered by learning a new language, communicating with a different culture, and getting veterinary issues accomplished all at the same time!"

Christine Petersen '98 (left), with friend in Kenya, says, "I found Kenyans to be exceptionally friendly, welcoming, and humble.... I made many friends and colleagues whom I will never forget."

"By all accounts Maria had a fantastic experience," says S. Gordon Campbell PhD, director of international programs at the college, who helped pave the way for her to hook up with alumnus Steve McLaughlin. Ten years ago Campbell created the Expanding Horizons Program. It received excellent alumni support, and it has made it possible for four or five curious and adventuresome students to roam the globe every summer since.

"Despite television, people in the developed countries are remark-

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## Message from the Dean

**T**his past June I had the pleasure of delivering the keynote address at the Fourteenth Symposium on Veterinary Medical Education at the University of Georgia. The theme of the symposium was the internationalization of veterinary education. In my address, I cited statistics from a World Health Organization report that states, "Infectious diseases are the world's leading cause of death, killing at least 17 million people—most of them young children—every year. Up to half the 5.72 billion people on earth are at risk of contracting many endemic diseases."

The report lists poverty, global population growth and rapid urbanization, migration and the mass movement of millions of refugees or displaced persons, collapsed human health systems, increasing international air travel, changes in global food trade, and the effects of climate change as obstacles to combating infections and other diseases.

Many of the emerging infectious diseases cited in the report have veterinary medical implications, including Ebola-like hemorrhagic diseases, Hantavirus pulmonary syndromes, food- and water-borne infections caused by *Cryptosporidium* and *E. coli* 0157:H7, rabies, and brucellosis.

Lest anyone think that rabies and brucellosis are yesterday's news, the report also states that rabies is the most serious disease spread from animals to humans, causing approximately 60,000 deaths each year. (That is as many deaths annually as there are veterinarians in the United States.) About 10 million people each year receive treatments after being exposed to animals suspected of having rabies. Dog rabies remains a threat in at least 87 countries with a total of 2.4 billion people at risk. Human brucellosis caught from farm animals is reported in at least 86 countries.

And, of course, other diseases touch on the responsibilities of

veterinary medicine, including tuberculosis, diarrheal diseases related to *Campylobacter* and *Salmonella*, and listeria.

We must change our view of the international role of veterinary medicine. It is no longer exclusively concerned with food-producing animals in developing countries. The recent events associated with bovine spongiform encephalopathy (BSE) should have brought this point home.

As valuable as our knowledge and services are and will continue to be, we must expand our definition of international veterinary medicine to embrace developed countries such as our own and to include companion animals in developing countries. Whereas some 36 percent of U.S. households own at least one dog, so too do 41 percent of households in Zimbabwe, 25 percent in Nigeria, 50 percent in Poland, and 22 percent of households in war-torn Croatia. Increasingly, the ownership of animals for companionship around the world is causing a demand for veterinary services for dogs and cats. Even in Slovenia, some 22 percent of households report owning a cat.

It is a pleasure to bring this issue of *CVM Newsletter* to you because it highlights a few of the activities of our college's faculty, alumni, and students in addressing international animal health and human issues.

On a personal note—as personal as this medium allows—let me extend to you my best wishes for a healthy and invigorating 1997.

*Franklin M. Lewis*



## The International Job Market

In an important study published last year, North Carolina State University researchers reported on a survey of employment opportunities for veterinarians in international work. They surveyed the identifiable universe of nonprofit organizations, including government, and for-profit actual or potential employers of veterinarians internationally.

Of 177 responding entities, 38 percent were nonprofit foundations or organizations, 19 percent were government agencies, 14 percent were research institutes, and 13 percent were consulting or contracting firms or related businesses. The rest were relief and development organizations, educational institutions, humanitarian groups, or religious organizations. Three-quarters of them operated in Asia and Africa, whereas just over half operated in North and South America and Europe. One-third reported operations in Australia and Oceania.

Nearly 50 percent of respondents reported having employed veterinarians previously, whereas only 38 percent currently hire them. Encouragingly, more than half of the organizations that had never or did not currently employ veterinarians responded that they would consider hiring them in the future.

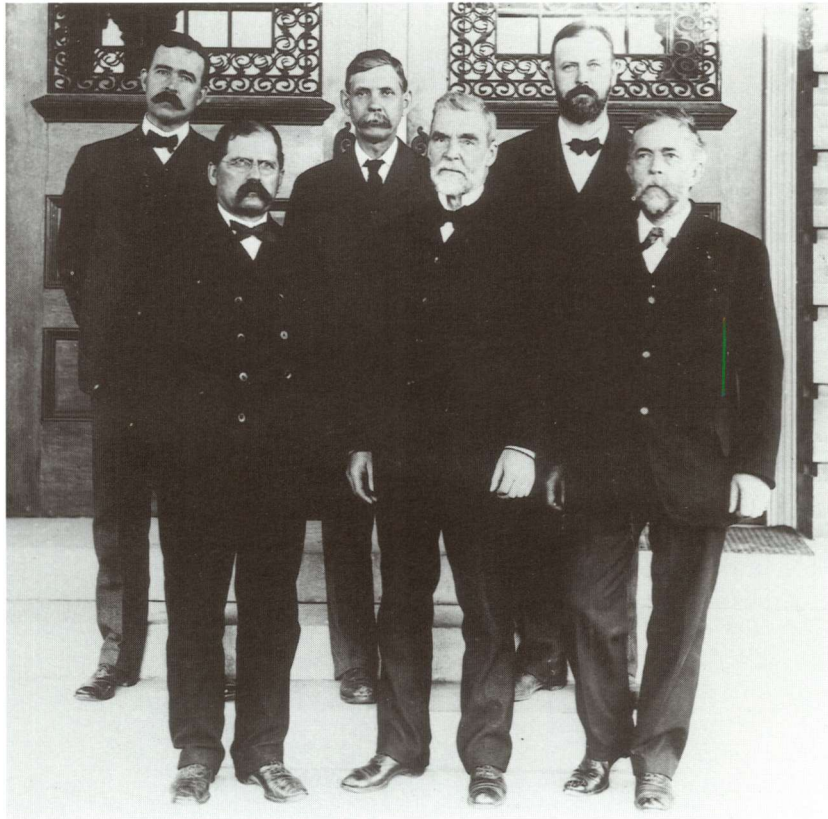
Of those currently hiring veterinarians, 26 percent were in animal health, 23 percent in public health or epidemiology, 17 percent in biomedical research, 13 percent in animal production, and 8 percent in agribusiness. The remaining 12 percent were spread among conservation, agriculture, medicine, and other activities. In most cases, post-DVM training was required or led to significantly higher earnings.



## The Centennial Faculty

Although the College of Veterinary Medicine was chartered by the New York State Legislature in 1894, it didn't open its doors to its first class—11 students—until September 21, 1896. To mark the centennial of the first class, college faculty members assembled in September 1996 for a group photograph, below.

Shown at right are original faculty members (from left) Grant S. Hopkins, William L. Williams, Veranus A. Moore, James Law, Pierre A. Fish, and Simon H. Gage. In his inaugural address, Law, the college's first director, said, "As trusted representatives of science, it is expected of us that we fortify ourselves with the lore of the past and strike out with clear vision, steady foot and strong hand for future achievement."



1896: DIVISION OF RARE AND MANUSCRIPT COLLECTIONS, CORNELL UNIVERSITY LIBRARY





# Pathogenic Parasite Study Could Preserve Farming in New York City Watershed

**C**ornell veterinary scientists' intensive cow-by-cow search for *Cryptosporidium* and *Giardia*, two disease-causing microorganisms, aims to clean up drinking water at its source. The goal of these intensive investigations by researchers at Cornell's colleges of Veterinary Medicine and Agriculture and Life Sciences is to maintain the safety of drinking water for millions of residents in the New York City metropolitan area, while preserving a way of life in the upstate farming communities where the water originates.

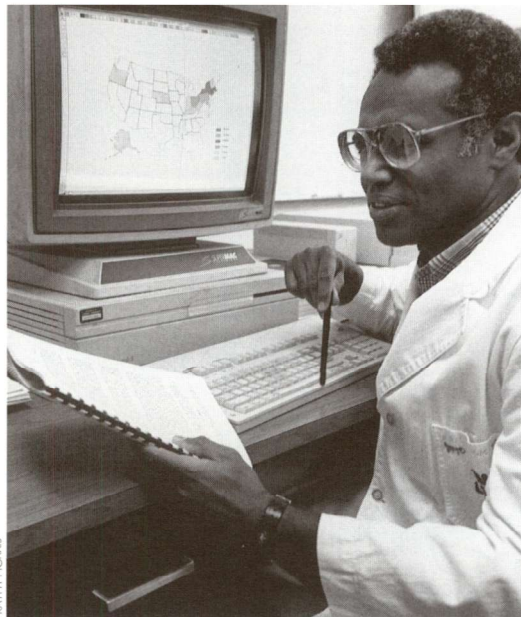
If the campaign succeeds in identifying sources of potentially lethal microbes and instituting farm management practices that significantly reduce the risk to water quality, both upstate New Yorkers and Big Apple water drinkers will come out ahead: dairy farms will continue to operate in the environmentally sensitive watershed, where rain trickles through barnyards on its way to New York City's reservoirs. And without New York City having to install a multibillion-dollar filtration system, faucets from Brooklyn to the Bronx will continue to deliver high-quality water.

"We are looking for sources of contamination and for ways to manage the risk" says Hussni O. Mohammed DPVM, PhD, associate professor of veterinary clinical science and the epidemiologist in charge of the pathogenic parasite study. "We hope to provide the city with clean water and sustain farming in the watershed."

Both *Giardia* and *Cryptosporidium* are one-celled protozoa that live in the gastrointestinal tracts of mammals—including cattle, wild animals, and humans—and find their way into water supplies by way of their hosts' fecal matter. People with healthy immune systems usu-

ally survive the infections, which can cause intestinal pain and severe diarrhea. But people with less robust immune systems can die from giardiasis or cryptosporidiosis.

*Giardia* and *Cryptosporidium* are resistant to chlorine disinfection, the most common means of purifying water supplies. Sophisticated filtration systems, which would cost New York City several billion dollars to build and millions of dollars each year to operate, are one way to trap and keep the tiny microorganisms from reaching water faucets.



**Hussni O. Mohammed says, "Our first task in risk assessment and risk management was to determine whether or not there is a pathogenic parasite problem on the farms."**

Unless, that is, the parasites can be kept out of the water at its source. That is New York City's strategy: to comply with federal clean-water regulations by reducing environmental sources of contamination in its watershed.

Although New York City owns and controls much of the land surrounding six reservoirs in its Catskill-Delaware Watershed (a five-county area west of the Hudson River), most land around streams

and rivers feeding the reservoirs is in private hands. The watershed is dotted with towns and hamlets, some of whose sewage treatment facilities are of questionable integrity, and with about 300 dairy farms.

Hoping to protect the watershed, the city has contracted with a team of scientists through the New York State Water Resources Institute (WRI) at Cornell to examine the problems and plan the solutions.

Contamination from human populations is addressed increasingly through improved sewage-treatment facilities.

Farm animals as contamination sources are addressed through the New York City Watershed Agricultural Program, which assists farm owners in controlling pollutants that may wash from their land into watershed streams. Well-understood farm practices can handle most of the pollution problems according to WRI Director Keith Porter PhD. But much less is known about the contaminants that have the most dire human-health implications, the pathogenic parasites.

"We can't even tell, at this point, whether parasites found in a water sample are coming from cattle, humans or wild animals," says Susan Wade

PhD, the veterinary parasitologist in the watershed program's pathogen group. DNA tests now under development may eventually allow disease detectives to trace the parasites back to their hosts, she says. But for now, the focus is on the most likely suspects—farm animals.

"Our first task in risk assessment and risk management was to determine whether or not there is a pathogenic parasite problem on the farms," says Mohammed. A preliminary survey of 99 watershed farms in 1994 found *Giardia* in 20 percent of dairy cattle.

*Cryptosporidium* was found in only 1 to 2 percent of cattle, "a



much lower rate than we had expected," Wade comments. *Cryptosporidium* infect dairy cattle only during their first 30 days of life, whereas *Giardia* can be carried by cattle of all ages, she notes.

"At the same time we test for infection on the farms, we also look for risk factors that may be associated with higher levels of infection," Mohammed explains. Among the possible factors are crowding of young animals, inadequate sanitation and presence of rodents or wild animals around cattle, and nutrition and general health of the cattle. "Not all factors that are found in association with disease are necessarily significant causes," the epidemiologist observes. "Some associations are merely coincidences, and removing those coincidental factors probably won't have much impact on reducing the infection."

So the parasite study, now in its second phase, is scrutinizing 20 randomly selected farms in the watershed that had detectable levels of *Cryptosporidium* and *Giardia* infection in preliminary tests and 20 that were free of infection. Fecal samples are analyzed at the College of Veterinary Medicine's Diagnostic Laboratory. The scientists also document the presence or absence of known risk factors on the farms.

"By the end of this year we should know which factors are consistently associated with infections," Mohammed says. "We will be able to make recommendations, based on a scientifically sound study, of which factors may be manipulated successfully to reduce infection."

"At the end of the third year, we will have enough information about what causes these diseases and what can be done to control them," Mohammed says. "We will be able to recommend, with confidence, which best management practices can be implemented on all watershed farms."

That knowledge is vital to the health of New York City water drinkers and to the continued diversity of a rural area that provides the water. ■



SOURCE: CORNELL FOCUS 5, 2 (1996)



## AQUAVET Celebrates Twenty Years at Woods Hole

**T**wo decades ago the organizers of the first AQUAVET course hoped that at least 10 percent of their participants would choose careers that included some aspect of aquatic animal medicine. But that number turned out to be closer to 20 percent, with alumni rising to leadership roles in state and federal agencies, zoos, wildlife parks, aquariums, private research companies, and veterinary schools. One would even travel in space.

When U.S. Army veterinarian Rick Linnehan, AQUAVET-I '83 and AQUAVET-II '90, took off aboard the space shuttle Columbia, he carried with him the AQUAVET twentieth-anniversary flag. Linnehan, flag in hand, gave an insider's look at the American space program to more than 80 AQUAVET alumni and faculty who returned to the Marine Biological Laboratory in Woods Hole, Mass., in November for four days of reminiscing.

"For me, and a lot of others, too, AQUAVET-I was a real moment of epiphany," says Suzanne Botts, PhD '94, AQUAVET-I '80 and AQUAVET-II '90, senior veterinary pathologist at the Experimental Pathology Laboratories in Research Triangle Park, N.C. "I had worked in fisheries before I went to vet school, but I had no idea before AQUAVET-I that I could find a career that combined both areas I love so much."

Giving students the big picture of careers in aquatic animal medicine is as much a goal of AQUAVET-I as is the presentation of scientific information. This four-week, all-day-and-well-into-the-night course, offered each spring at one of the world's premier centers for marine biology, touches on the major health issues of marine and freshwater animals from clams and oysters to crustaceans, fin fish, and marine mammals. And more.

"With fish diseases you also have



COURTESY P. BOWSER

AQUAVET students can use the resources of the Marine Biological Laboratory Library at Woods Hole on Cape Cod. The library is open 24 hours a day, 365 days a year.



COURTESY P. BOWSER

Cornell professor emeritus of botany and AQUAVET faculty member John Kingsbury PhD takes students to the Cape Cod Canal at low tide to acquaint them with the marine ecosystem.

to appreciate the environment in which the fish live," notes Paul R. Bowser, MS, PhD, professor of aquatic animal medicine and associate director of AQUAVET. "So through laboratory studies and field trips to different aquatic ecosystems we hope that students come away

thinking about the 'health' of the environment, too."

This hit home for Lenore Menger-Anderson '98, AQUAVET-I '95, an aspiring small animal veterinarian, during a field trip to the New Bedford fishing fleet and processing plants.



"We talked directly with the fishermen about environmental trends that are forcing the industry to fold," she says, "and about how they're being replaced by fish farms."

Though most applicants for AQUAVET I—in numbers two to three times the available space—are students from veterinary schools across the country, AQUAVET-II is geared toward midcareer professionals. Botts's company gladly paid for her to attend the only in-depth course in histopathology of fish diseases offered in a veterinary program in the United States.

Mary Ellen Mueller, PhD, attended in 1995. As fish health coordinator for the Division of Fish Hatcheries, U.S. Fish and Wildlife Service, she says that AQUAVET-II gave her a thorough understanding of the issues, strategies, and consequences of disease—necessary to solve fish health problems in the nation's 72 hatcheries, 9 fish health centers, and 5 fish technology centers.

Some participants are drawn to AQUAVET because the faculty are chosen from among the foremost specialists in their disciplines. More than 40 are invited from 22 institutions across North America.

"Professors and students all had such an intense desire to learn," says Lillian Good '99, AQUAVET-I '96, who heard of the program from veterinarians she'd met during internships at the New England and National Aquariums. And the networking possibilities are invaluable, notes Good, who hopes, like many AQUAVET participants before her, one day to be a specialist in exotic medicine at an aquarium or zoo.

AQUAVET is sponsored jointly by the College of Veterinary Medicine at Cornell, the School of Veterinary Medicine at the University of Pennsylvania, and three marine science institutions at Woods Hole: the Marine Biological Laboratory, Woods Hole Oceanographic Institution, and Northeast Center of the national Marine Fisheries Service. ■

## Feline Practitioners Seminar Tackles Adverse Vaccine Response

**T**he increase in adverse postvaccinal reactions is one of the most pressing issues in feline medicine today. With that in mind, the Seventh Annual Feline Practitioners Seminar last July spent two of its four days exchanging current information on this problem.

Twenty speakers—including faculty from North America's foremost veterinary schools, practitioners, vaccine researchers and manufacturers, and representatives of federal agencies that oversee vaccine development and production—addressed an international audience of 150 veterinarians on topics ranging from the basics of feline immunology to laboratory and clinical studies of fibrosarcomas.

In addition to a host of long-recognized postvaccinal reactions such as vomiting, fever, and hives, large and rapidly growing tumors appearing at the vaccination site were first noted in the early 1990s, says John E. Saidla, DVM, director of continuing education at the college. Though the cause of such tumors is as yet unknown, epidemiologists presented research on the incidence of tumors associated with vaccines for rabies and feline leukemia virus.

Tumors occur most commonly with killed vaccines, and Saidla notes that adjuvants necessary in this vaccine type may be the culprit. Tumors associated with modified live vaccines have not been recognized.

Veterinarians should report all occurrences within their practices to the U.S. Pharmacopeia (USP) Veterinary Practitioners Reporting Program in addition to vaccine manufacturers so as to document further the incidence of postvaccinal reactions, says James R. Richards, DVM, senior extension

associate in the Cornell Feline Health Center. Reporting procedures are outlined in the February 1, 1996, issue of the *Journal of the American Veterinary Medical Association*, volume 208, number 3. As a centralized data collection source the USP will then inform the appropriate governmental agencies.

One of the most controversial questions raised at the meeting was how frequently vaccines should be administered, given the risks. Preliminary evidence was presented that vaccines confer protection for longer than the traditional one year, Richards says. But until longevity studies just under way are completed there is no hard evidence to show precise duration of immunity.

"I don't want to give people the idea that it's fine to stop vaccinating cats, because it's not," Saidla says. "Yet what came out of the meeting was that cats may not need each vaccine every year."

Veterinarian and client together should decide on the frequency of vaccination based on true probability of exposure to diseased cats, Saidla and Richards advise. Lone indoor cats that live in high-rise apartment buildings have significantly less need for vaccines than do indoor-outdoor cats or those that are likely to encounter young strays at home.

"Well-meaning, Good Samaritan-type owners who bring home young cats to spend the night en route to the animal shelter need to keep their own cats well immunized," says Saidla. ■



## Cornell Program Attracts Top International Students

**A**n Olympic-caliber athlete, a female Navy pilot who served in the Gulf War, a published author of numerous scientific papers, and a PhD in molecular biology—these are some of the students from this and last year's Leadership Program for Veterinary Students in the College of Veterinary Medicine. After an intensely competitive selection process, two dozen veterinary students from around the globe came to Ithaca for the summer to be groomed as potential academic or research leaders in veterinary science.

"The program targets students who are the best of the best. They have superb academic records but also have achieved things in their lives that suggest they could be future veterinary medicine faculty members or leading research scientists in government or industry," says Douglas McGregor MD, DPhil, associate dean for research and graduate education, professor of immunology, and director of the Leadership Program.

Amy Schein, 26, of Scarsdale, N.Y., was one of this year's students. Although her fellow students came from the United Kingdom, Australia, New Zealand, Switzerland, Spain, the Netherlands, and South Africa, Schein was one of four Cornell veterinary medicine students in the program. She had a near perfect (3.9) grade point average at Georgetown University where she was an English major and Japanese scholar and had spent a summer in the Israeli army in a basic training program. But after spending a year in Australia touring wildlife conservation parks, visiting zoos, and cleaning schools in an aborigine village where few Caucasians ventured, and later working in the Bronx Zoo's histology laboratory, her future plans shifted toward veterinary medicine.

With only one science course in her undergraduate career, Schein attended—and excelled in—Columbia University's premed post-



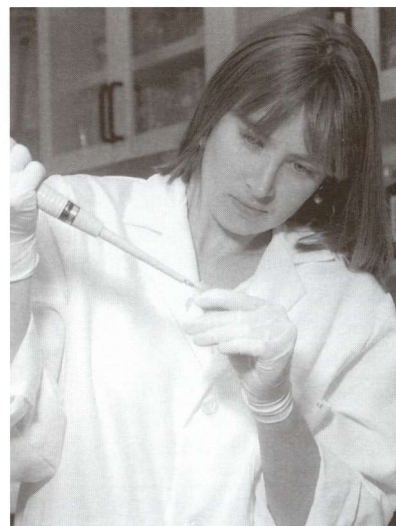
### **Sarina Hinsley, Cornell University**

This past summer Sarina was sponsored by NIH and Merck and Co. to research structure-function relationships of the nicotinic acetylcholine receptor (nAChR) through single channel recordings. Working in the laboratory of Robert E. Oswald PhD, in the Department of Pharmacology, she used the technique of patch-clamping to test the effects of different cholinergic agonists on current through the nAChR. Analyses of these and future data will be used to reveal structural details of the nAChR.

baccalaureate program for three years, catching up in the sciences and working as a teaching assistant.

Schein, who is entering her second year in the DVM program, says, "There is so much new and interesting material I'm being exposed to. I'm keeping my mind open (about what field I want to go into) as I hear all the veterinarians who have gone into different fields telling us about the options available."

Much of the new material she was exposed to came from her research project. Each student was linked with a faculty mentor and active research project to have an opportunity to apply investigative strategies and glean insights into how a research laboratory uses its professional and material resources. Schein worked with Bendicht Pauli DVM, PhD, chair of the Department of Pathology, studying adhe-



### **Antonia Jameson, Cornell University**

Antonia worked on the characterization of "Cool," a recently isolated protein that is part of a signaling pathway implicated in cytokinesis and cell cycle progression. She constructed a mutant form of the protein and tested its interaction with another player in the pathway.

sion molecules and cancer metastases.

The students also participated in a wide range of activities geared to developing leadership qualities—such as technical, communication, and critical thinking skills—and to exploring ethical and professional issues. For example, they had training in chemical and radiation safety; discussed biomedical ethics, the scientific method, and leadership responsibilities; participated in a creativity workshop; and heard presentations on how to judge a good residency and research program and how to review scientific manuscripts critically.

They also participated in a career day during which research scientists talked about their careers. In addition, the students had the opportunity to speak privately with prominent veterinary leaders such as deans and faculty members of other veterinary colleges as well as research scientists in industry and government.

In another component of the





**Felicity Cole, University of Sydney, Australia**

Felicity's project involved a study of the respiratory alkalosis induced during exercise. She tried to determine if alkalosis has any effect on the uptake of  $O_2$  by exercising muscle. Each experiment involved running a sheep on a treadmill for half an hour. Many parameters were measured, including  $O_2$  content,  $pCO_2$ , PCV, lactate, body temperature, blood flow, and total  $O_2$  consumption. From the analysis of her data, Felicity concluded that an exercise-induced decrease in  $pCO_2$  (respiratory alkalosis) has no discernible effect on  $O_2$  uptake nor did she see an effect of temperature. The driving force behind  $O_2$  uptake is the  $pO_2$ , particularly in areas of low  $pO_2$  such as exercising muscle.  $O_2$  is delivered regardless of  $pCO_2$  or temperature.

program, students spent two days in Washington, D.C., touring the research facilities and meeting with senior scientists and administrators at the National Institutes of Health and the U.S. Department of Agriculture.

Constantin von der Heyden, 21, came to the program from South Africa where he played championship hockey, chaired numerous societies at his university, including the environmental awareness group and a snake club, and was one of seven students elected from a student body of 560 to serve on the student council. A fly fisherman for 16 years and a rock climber, von der



**Constantin von der Heyden, University of Pretoria, South Africa**

Constantin's project this past summer involved a study of glutamate receptors in brain tissue. Linda Nowak PhD, from the Department of Pharmacology, acted as his mentor. Glutamate receptors are widespread throughout the central nervous system and are involved in neuronal excitation. Aberrant functioning results in disorders such as seizure activity and neuronal death with resultant loss of specific neural functions. Working with cDNA sequences of two of the AMPA receptor-type subunits, Constantin ligated these into plasmids and transformed bacteria using these engineered vectors. The bacteria (*E. coli*) were grown and DNA purified from them. The DNA was then used to transfect mammalian cells with a view to expressing the DNA sequences and thus produce the desired receptor subunits. These subunits will then be the focus of electrophysiological studies to determine their characteristics.

Heyden recently spent two months touring Malawi, Tanzania, Kenya, and Mozambique hiking, fishing, and exploring the natural environment.

"I'll probably do research or specialize—I want to do something that will really challenge me mentally," says von der Heyden, whose research project with Linda Nowak PhD, associate professor of pharmacology, focused on figuring out the molecular makeup of brain gluta-



**Amy Schein, Cornell University**

Amy spent the summer working in the laboratory of Bendicht Pauli DVM, PhD, in the pathology department's section of cancer biology. Her project involved isolating and sequencing the human homologue of the bovine gene for the lung endothelial cell adhesion molecule, Lu ECAM-I. To achieve this goal she screened a human lung cDNA library and a human genomic library using the known bovine Lu ECAM-I sequence as a probe. One positive clone, CHL-I, was obtained. It is a 1.2Kb molecule with a short region of 69 percent homology to the bovine Lu ECAM-I gene. Human genomic library screenings yielded two positive clones with 76 percent homology to nearly the entire sequence of the bovine gene.

mate receptor channels. These receptor channels are found only in embryos and may play an important role in the developing embryo.

Felicity Cole, who came to the program from Sydney University in Australia, has also seen more of the world than most students. While in high school, she was chosen as one of the top 300 science students of Australia to be part of a national youth science program. Hired as a staff member and later promoted to program coordinator, Cole toured Russia as a representative of the program.

"I've always loved animals and science, so it was natural to combine the two in veterinary medi-

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The Merck Company Foundation has pledged support to the Leadership Program for three years, beginning in 1995. Above center: Joanne Bicknese DVM '78, manager of technical services, U.S. Operations, Merck AgVet, conveys a \$26,000 check from the Merck Company Foundation for the 1996 program to Douglas McGregor MD, DPhil (left), program director and CVM Associate Dean for Research and Graduate Education, and CVM Dean Franklin Loew DVM, PhD (right). Of the program, John Taylor, executive vice president of the Merck Company Foundation, says, "The Cornell Leadership Training Program is an innovative approach to introducing well-rounded individuals into the veterinary profession. That's why the Merck Company Foundation is pleased to support this unique initiative. Each year, this intense, hands-on research experience provides top veterinary students with access to experts and team-building experiences that will better prepare them for their life's work."

#### INTERNATIONAL STUDENTS CONTINUED FROM PAGE 9

cine. I love the challenge of medicine—it's like being a detective," says Cole, who worked with David Robertshaw PhD on respiratory physiology, specifically whether oxygen delivery to the tissues is inhibited by exercise-induced heat and alkalosis.

A final objective of the program is to encourage students to interact with one another.

"The idea is get the students working together now so that in the future, when they are in leadership positions, they will form a professional network and continue to interact in solving problems on a global basis," says McGregor.

The program is supported by the Dorothy Russell Havemeyer Foundation, the Florence Gould Foundation, the Fundación Purina, the Marilyn M. Simpson Trust, the Merck Foundation, the National Institutes of Health, the Richard King Mellon Foundation, the Robert W. Woodruff Foundation, the U.S. Department of Agriculture, and the Wellcome Trust. ■

## Friskies PetCare Supports Animal Behavior Resident

Behavior problems in companion animals are a common cause of abandonment, euthanasia, or surrender of an animal to a shelter. Yet only 16 veterinarians in the United States are board certified by the American College of Veterinary Behaviorists. To train more veterinarians in the diagnosis and treatment of companion animal behavior problems and thereby reduce the number of animal euthanasias, Friskies PetCare has joined with the College of Veterinary Medicine to underwrite a two-year residency program. The first Friskies PetCare Animal Behavior Resident is Diane Frank DVM, who began her work at the college in July.

"The goal of the program at Cornell is not only to train veteri-



Friskies PetCare Animal Behavior Resident Diane Frank DVM and friend, Bidule

narians to treat behavior problems but to advance our understanding of the physiological processes underlying these problems," says Katherine Houpt VMD, PhD, who is board certified by the American College of Veterinary Behaviorists. She says that identification of the neurochemical differences between normal and aggressive animals, for example, can reduce aggression.

"Retrospective and prospective studies will be conducted to evaluate behavior modification techniques and drug therapies so that veterinarians can be more effective in preserving the human-animal bond," says Houpt. "Ultimately, we hope to save the lives of animals." ■



## Research and Service Notes

### Summer Symposia Provide Latest Information on Key Topics in Veterinary Medicine

#### Hip Dysplasia

Feed dogs smaller portions. And breed only dogs with the best hip conformation and the lowest amount of hip distraction laxity. These major recommendations for reducing the incidence of hip dysplasia were presented at the "International Symposium on Hip Dysplasia and Osteoarthritis in Dogs," held August 4 to 5. The symposium, which inaugurated the annual Baker Institute Scientific Conference, brought together 80 scientists, who, for the first time in 25 years, discussed the latest research on the diagnosis, pathogenesis, genetics, and treatment of this inherited disease.

"Studies now clearly show that if dogs are fed 25 percent less than they would like to eat, especially in the rapid growth phase between two and six months, the appearance of hip dysplasia can be reduced by 60 percent," notes symposium organizer George Lust PhD, professor of physiological chemistry in the James A. Baker Institute for Animal Health.

During a separate program held for breeders and veterinarians, researchers recommended that in addition to feeding all dogs smaller amounts of food, only those that appear most normal on the radiograph and have a hip distraction laxity of less than 0.3 be used for breeding.

#### Bovine Viral Diarrhea

In recognition of the identification of the virus causing bovine viral diarrhea (BVD), made at the college 50 years ago, more than 200 veterinarians from Europe, Latin America, and North America gathered June 23 to 25 to review the research and discuss control strategies for this still-endemic cattle disease.

BVD had come to be viewed as a mild subclinical infection of minor consequence. But in 1994 and 1995 a new strain of the virus caused major outbreaks in Quebec, Ontario, and some parts of the United States in which as many as half the cows in a herd were killed, notes Edward J. Dubovi PhD, associate director of the Diagnostic Laboratory, who organized the meeting.

Researchers have now concluded that the noncytopathic biotype of BVD is responsible for the virus persisting in nature and for the vast majority of clinical disease. And acute infection of cattle can have clinical consequences ranging from abortion to death. Recommendations for controlling the disease include identifying and eliminating all the persistently infected animals in a herd, instituting a good vaccination program, and, where possible, maintaining a biosecurity program. "Bovine Viral Diarrhea Virus: A 50-Year Review" was made possible by a generous contribution from Pfizer Animal Health.

Francis H. Fox DVM, Dipl ACVIM, emeritus professor of medicine in the Department of Clinical Sciences, co-author of the first article describing the BVD virus, and James H. Gillespie VMD, Ch Dipl ACVIM, emeritus professor of microbiology and immunology, one of the first researchers to work with the virus, gave a rare glimpse into the early days of discovering the pathogen behind a baffling and costly disease of ruminants.

#### Maternal, Fetal, and Neonatal Health

New findings about the lifelong consequences of suboptimal development during and after pregnancy were reported at the international symposium "Frontiers in Maternal, Fetal and Neonatal Health: Programming for a Lifetime of Good Health," held August 9 to 12. Peter W. Nathanielsz PhD, MD, the James Law Professor of Reproductive Physiology, brought together medical researchers from Europe, Australia, New Zealand, Canada, and the United States, who presented evidence that virtually all systems of the adult human—from the lungs to the skeleton and the immune systems—are "programmed" for better or worse by early developmental factors.

In his address on "Fetal Origins of Adult Disease," keynote speaker David J. P. Barker, of the University of Southampton, suggested that the mechanism for incomplete organ development in the womb is a kind of save-the-brain strategy programmed into fetuses. Deprived of resources such as oxygen, the fetus diverts to the developing brain what little is available at the expense of other systems. The result can be seen in a lifetime of less-than-optimal cell numbers and type, organ structure, hormonal feedback, and metabolic activity. ■



# EXPANDING HORIZONS

CONTINUED FROM PAGE 1

ably unfamiliar with what goes on in the other two-thirds of the world," says Campbell, who has spent a good deal of time himself in what are now referred to as lesser-developed countries (LDCs). In LDCs not only do veterinary students gain experience with diseases of food-producing animals they would otherwise only read about in textbooks, but they can learn much, he says, about production animal medicine. This is especially so at a time when companion animal medicine is on the rise in American

**Maria Vasquez-Chadam '99, shown at right in Ecuador, says "The impact of this trip will hold with me forever . . . I felt empowered by learning a new language, communicating with a different culture, and getting veterinary issues accomplished all at the same time!"**

veterinary schools. They are important lessons, too, in observing major outbreaks of disease and understanding the economic basis of veterinary practice versus the empathic one. The whole ethic, he points out, is entirely different when the major problem people face is finding enough to eat.

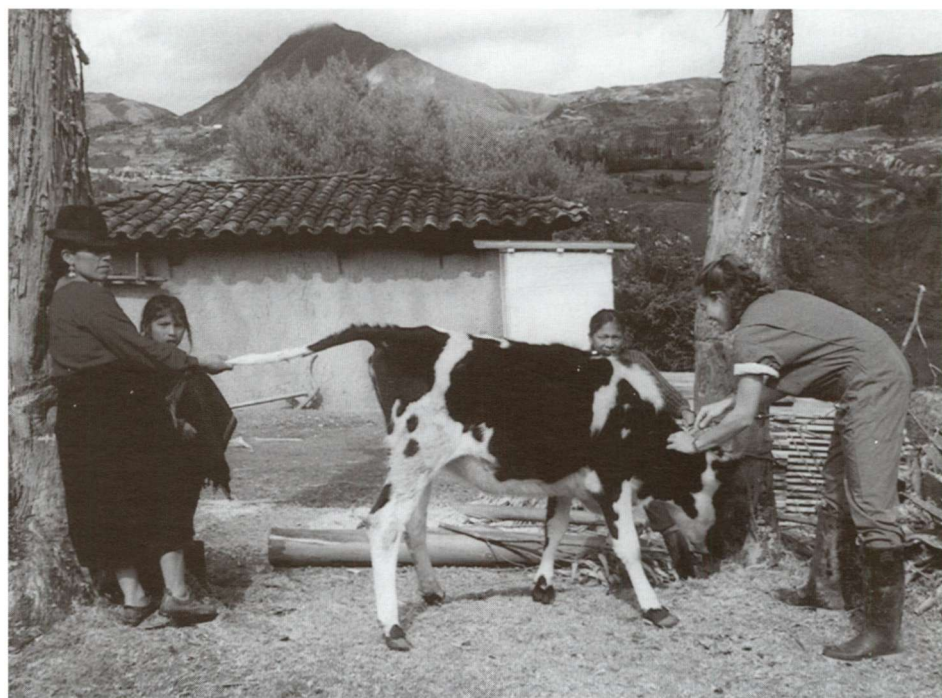
With that said, the even more important intellectual and academic endeavor from Campbell's point of view is broadening the basis of a student's education by putting it in an international context.

"To experience life in an environment lacking in many of the technological advances and personal comforts taken for granted in the United States gives young people a totally different sense of what the world is all about," he says. "It opens up an appreciation of history, geography, religion, literature, language—the lot."

Expanding Horizons is a three-month noncredit program open to veterinary students from any class year. Students are responsible for devising a study project, identifying the general geographic area where they would like to work, and committing to learning at least the rudiments of the native language. Campbell, his seven-member faculty-student advisory panel, and program veterans then help each student find a host veterinarian or veterinary institution willing to

take them on. In the main, Campbell says, the hosts are very keen to work with Cornell students, treat them well, and give glowing reports of their efforts.

They can hardly be as good as the reports from the students themselves. Chris Ralphs '98 spent 11 weeks in Uganda. Among other things he took a course in wildlife medicine with the fourth-year class of the Makerere University Veterinary School; assisted with an epidemiological study of the prevalence



COURTESY M. VASQUEZ-CHADAM



COURTESY G. KUMAR

**Gita Kumar '98, who worked at the theriogenology faculty at Onderstepoort, South Africa, says she fell in love with Africa—the land, the people, and the animals.**





COURTESY M. VASQUEZ-CHADAM

**Maria Vasquez-Chadam**  
vaccinates a sheep in Ecuador.



COURTESY C. RALPHS

**"The experience was unbelievably valuable and will help shape my future as I look toward the possibilities it holds for me," says Chris Ralphs '98, who spent 11 weeks in Uganda.**

of East Coast fever in cattle and a behavioral study of warthogs; visited the Mountain Gorilla Veterinary Center in Rwanda; and reviewed the National Agricultural Fair educational displays promoting animal agriculture and production medicine.

"This wide array of activities truly let me see the spectrum of possibilities and limitations in practicing veterinary medicine in the economic, geographic, and cultural climate of an African nation," Ralphs says. "The experience was unbelievably valuable and will help

shape my future as I look toward the possibilities it holds for me."

Brenda Godlewski '98, who rode with Uganda's Makerere University Ambulatory Service, noted that treatment for the numerous diseases she saw was usually the same: oxy-tetracycline, multivitamins, and rumen tonic.

"Veterinarians in Uganda need to do the best they can with what they have," she observes. "Drugs are limited, farms are accessible only via dirt roads almost impassable during rain, and many farmers cannot afford to pay for services." Godlewski says she came home "eagerly anticipating my next destination."

Although Christine Petersen '98 chose to conduct research relating to the molecular biology of trypanosomes, she says her interactions with Kenyans were the most rewarding part of her stay at the International Livestock Research Institute in Nairobi.

"I found Kenyans to be exceptionally friendly, welcoming, and humble," she says. "I always felt safe and at home, whether I was out for Nyama choma (the Kenyan version of a cabaret club) with my lab, playing 'football' (soccer) with various institute teams, or at the home of a farmer I had just met. I made many friends and colleagues whom I will never forget."

Gita Kumar '98 worked with the theriogenology faculty at Onderstepoort, South Africa. Her project was to evaluate and attempt to improve existing methods of freezing stallion semen. As a consequence of her work there and travels throughout the country and into Botswana and Zimbabwe, Kumar says she fell in love with Africa—the land, the people, and the animals.

"I cannot imagine not returning at some point for a longer period of time, and I look forward to that time with eagerness," she says.

The transformational tales of each of these five students echo those of the 50 who have gone before. It is no surprise to Campbell.

"I launch them," he says with a knowing smile, "and I can tell you they'll come back different people." ■



## University Invites Full Participation in EIS of Waste Disposal

**M**eeting for the first time in October with the Community Advisory Committee on the College of Veterinary Medicine's proposed medical waste incinerator, university officials invited the community to participate fully in a review of waste disposal processes that one official termed an "EIS [environmental impact statement] of waste disposal."

Dean Franklin M. Loew and Harold D. Craft Jr., Cornell vice president for facilities and campus services, said that the university is prepared to examine a broad array of subjects related to waste reduction, recycling, and disposal, including whether an incinerator is the best alternative for disposing of veterinary college waste. Based on the findings of the review process, the university will then determine the next steps, including the possibility of conducting a formal EIS.

Whether the EIS will be a formal and official process conducted by the State University Construction Fund (SUCF), the lead agency for the currently proposed project, or whether the university itself conducts a comparable study will de-

pend on further discussions with appropriate state agencies, Craft said.

He polled the 17-member committee to seek their commitment to working with the university and planning the future of waste disposal for the veterinary college. Most agreed without provisions.

The committee, cochaired for at least its first session by Craft and Loew, decided to meet approximately every three weeks in sessions that will be open to the public and the news media. Members also decided to seek the services of a professional facilitator who is not connected with the university to assist their deliberations.

The committee, convened by the university after summer-long opposition to construction of an upgraded medical waste incinerator in the center of the veterinary college, is made up of representatives from government; citizens' groups; veterinary groups; student organizations; campus assemblies and the faculty senate; and town environmental management councils. The state Farm Bureau, although invited to participate, did not send a representative to the first meeting.

Whether an EIS is conducted by the state agency or by Cornell, it will be a lengthy, multistep process with ample opportunity for public comment, said Robert R. Bland, an environmental engineer in the university's Planning, Design, and Construction Office. After "scoping" to determine what issues will be covered by the EIS, he said, there would be a draft EIS and time for public comment, presentation of the final EIS and findings with more opportunity for comment, and finally the permit review process by the state Department of Environmental Conservation, also accompanied by comment.

The preparatory stage for an EIS is usually conducted in-house without involvement of community committees or any other participation, Bland noted. As outlined to the committee in their invitation to participate, that stage would include a waste management/minimization plan, selection of professional consultants, identification of alternatives to incineration, evaluation of alternatives, and selection of a proposed project. ■

## Bare Bones Given Permanent Home

Artist Jeff Burtch ILR '68—assisted by Cornell's Grounds Department—placed his Bedford Indiana limestone sculpture, *Bare Bones*, in a landscaping bed outside the entrance of the Veterinary Medical Center.

The artwork was donated to CVM by Jay Hyman DVM '57 and his wife, Anita. Dr. and Mrs. Hyman also donated to the college a collection of artwork by Cuban masters, which was exhibited in the gallery of the medical center throughout the fall. Dr. Hyman said of the sculpture, "Jeff's work reminds me of Henry Moore's style, with its graceful curves and negative spaces."



ALEXIS WENZEL/ARND BRONKHORST



## People, Honors, and Awards

At this year's AVMA convention in Louisville, **Barry A. Ball** DVM, PhD, Dipl ACT, associate professor of theriogenology in the Department of Clinical Sciences, was awarded the Excellence in Equine Research Award, sponsored by Bayer Animal Health. Dr. Ball's research interests include gamete physiology and early embryonic development and loss in mares. Recently he has focused on the formation and function of a reservoir of spermatozoa in the mare's oviduct. His goal is to understand better how sperm are stored and what controls the series of changes that sperm cells undergo before fertilization.

The Department of Microbiology and Immunology added two faculty members this fall: **Theodore G. Clark** PhD, assistant professor of parasitology and immunology, studies molecular approaches toward the control of *Ichthyophthirius*, a commercially important pathogen of freshwater fish. Dr. Clark was most recently an associate research scientist in the Department of Medical Microbiology at the University of Georgia College of Veterinary Medicine. **Gary R. Whittaker** PhD joined the faculty as assistant professor of virology. His research focuses on the mechanisms of nuclear transport in influenza virus-infected cells. Before coming to Cornell, Dr. Whittaker was a postdoctoral fellow and associate research scientist in the Department of Cell Biology at Yale University School of Medicine.

**Peter F. Daels** DVM, PhD, assistant professor of theriogenology in the Department of Clinical Sciences, was given the Pfizer Animal Health Award for Research Excellence.

**Thomas J. Divers** DVM, PhD, Dipl ACVIM, associate professor in the Department of Clinical Sciences, was given the Norden Distinguished Teacher Award for continued excellence in teaching. The award is sponsored by Pfizer Animal

Health. Two nominations are submitted by each of the four CVM veterinary classes; the recipient is then chosen from among the eight nominees. Dr. Divers joins a distinguished list of outstanding educators who have received this award since its inception in 1963.

The National Academies of Practice in Veterinary Medicine inducted **Richard C. Grambow** DVM '57 as a member at its spring meeting. The National Academies of Practice is "dedicated to quality health care for all, by serving as the nation's distinguished, interdisciplinary policy forum that addresses public policy, education, research, and inquiry." The organization "joins as one" the professions of dentistry, medicine, nursing, optometry, osteopathic medicine, podiatric medicine, psychology, social work, and veterinary medicine.

**Malcolm A. Kram** DVM '74 has been appointed state government relations manager for Pfizer Inc., for which he will monitor legislative and regulatory issues in Pennsylvania that affect Pfizer's human health and animal health business. This is the first time Pfizer has made such an appointment to focus on animal health.

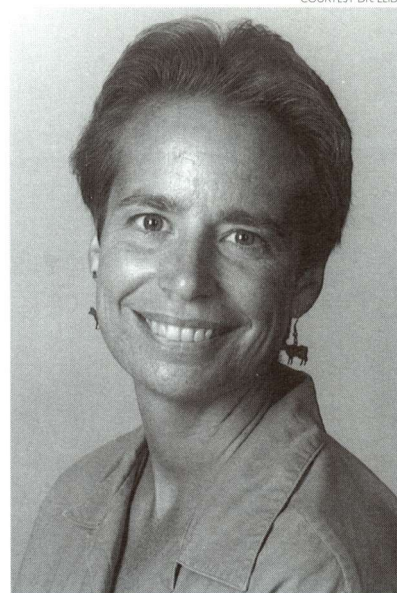


Dr. Grambow

**Pepi F. Leids** DVM '82 received the Merit Award from the New York State Veterinary Medical Society at its October annual meeting in Alexandria Bay. The award cited her involvement in the state and the Southern Tier VMA, noting that she was the first woman to be elected president of that region. Dr. Leids was appointed to the New York State Board for Veterinary Medicine in 1993 and was elected vice chairman. She is also chairman of the board's Exam Committee, secretary/treasurer of the Cornell CVM Alumni Association, a member of the President's Council of Cornell Women, and actively involved in alumni affairs for the College of Agriculture and Life Sciences.

As a community leader in Bath, N.Y., Dr. Leids is involved in the Steuben County Health Services Advisory Board and the American Cancer Society. Formerly associate, then co-owner, of the Bath Veterinary Clinic for 12 years, Dr. Leids has worked since 1994 as a field veterinarian for the New York State Department of Agriculture and Markets, Division of Animal Industry.

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Dr. Leids

COURTESY DR. LEIDS

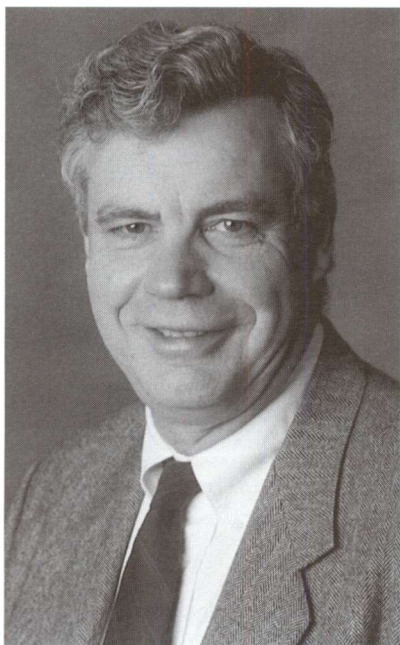


## PEOPLE CONTINUED FROM PAGE 15

At the same meeting, **Donald H. Lein DVM '57, PhD, Dipl ACVP**, was given the Outstanding Service award by the NYSVMS "in recognition of outstanding contributions to the advancement and improvement of veterinary medicine in New York State."

Dr. Lein received his PhD from the University of Connecticut in 1974, after which he returned to Cornell as associate professor in clinical sciences. In 1980, he was appointed assistant director and, in 1987, director of the Diagnostic Laboratory. Dr. Lein was cited for his expertise and initiative in responding to veterinary concerns locally, regionally, and nationally. He is a member of the AVMA Council on Biologics and Therapeutic Agents; past president of the American Association of Veterinary Laboratory Diagnosticians; member of Tuberculosis National Research and Study Group for USDA/APHIS; and adviser for the FDA Center of Veterinary Medicine.

He has also served as chairman of the Bovine Diseases Committee of the Livestock Conservation Institute, member of the Morris Animal Foundation's Scientific Advisory Committee, and member of the special committee convened earlier



Dr. Lein

this year for a USDA presentation that evaluated and approved official TB test criteria.

Two Cornell medical experts were appointed by the National Aeronautics and Space Administration (NASA) to an independent task force to review the ethical integrity of the science and human treatment of animals on the upcoming Bion 11 and 12 missions: **Franklin M. Loew '61, DVM '65, PhD**, dean of the College of Veterinary Medicine, and **Jeffrey S. Borer MD**, the Gladys and Roland Harriman Professor of Cardiovascular Medicine at the Cornell University Medical Center.

The Bion program is a cooperative space venture among the U.S., French, and Russian space agencies to conduct biomedical research using rhesus monkeys. Bion 11 is expected to launch from Russia in late 1996.

In addition, Dean Loew was elected last spring to the board of directors of the Massachusetts Society for the Prevention of Cruelty to Animals/American Humane Society, one of the largest humane societies in the world. And in mid-December Dean Loew spoke at the European Congress on the Ethics of Animal Experimentation at the Palais des Congrès in Brussels, the only U.S. speaker on the three-day program.

Baker Institute Associate Professor **Vicki N. Meyers-Wallen VDM, PhD, Dipl ACT**, who is affiliated with the Department of Anatomy, has received a one-year NIH Fogarty International Fellowship to support a sabbatical to study the canine model of XX sex reversal, an inherited disorder of gonadal development that occurs in humans as well as domestic animals. This gene causes the gonad to develop testicular tissue in individuals that are chromosomally female.

Dr. Meyers-Wallen is trying to identify this gene and determine how the mutation occurs, providing new information about the genetic control of normal testis differentia-

tion. She will be working at Cambridge University and at the National Institute for Medical Research, Medical Research Council in London.

Recently published books by CVM faculty members include *Equine Fracture Repair* (W. B. Saunders, 1996) by **Alan J. Nixon BVSc, MS, Dipl ACVS**, associate professor of surgery in the Department of Clinical Sciences.

**Steven A. Osofsky DVM '89** was selected by the American Association for the Advancement of Science as 1996-97 Science and Diplomacy Fellow. Dr. Osofsky is the first veterinarian to serve as a biodiversity program specialist with the United States Agency for International Development in Washington, D.C. He is one of 18 fellowship recipients this year.

The program is designed to provide a public policy learning experience with an international focus; to demonstrate the value of science and technology in working on important societal programs; and to make practical contributions to the more effective use of scientific and technical knowledge in U.S. programs in foreign affairs and international development.

Dr. Osofsky goes to Washington from the Fossil Rim Wildlife Center



Dr. Osofsky



in Glen Rose, Texas, for which he was animal health services director since 1994. Before that, he served as the first wildlife veterinary officer for the Botswana Department of Wildlife and National Parks for two years.

**Jeri Wall** joined the College of Veterinary Medicine in December as communications manager. Most recently, she served as community relations specialist for Cayuga Medical Center in Ithaca. She has also held positions as communications director for the Lummi Indian Nation in northwest coastal Washington; publications coordinator and art director for companies in Santa Fe; and public relations coordinator for United Western Medical Centers in Santa Ana, California. She graduated from the State University of New York at Albany with a BA in English and MS in reading. She also holds a graduate certificate in journalism and photography from UCLA. She replaces **Elizabeth Fontana**, who was editor of this and other CVM publications before leaving the college in August.

**Stephen J. Roberts** DVM '38, professor emeritus of theriogenology in the Department of Clinical Sciences, has been working for more than three years on a history of Cornell polo. In September, he completed it and delivered one of the first copies to the Flower-Sprecher Library at the college.

"There is a lot here," Roberts said as he patted the thick binder, "but there were so many memories and stories that I just couldn't fit in, and boxes and boxes of photos."

To obtain a copy of his work, "An Autobiographical History of Collegiate Polo and its Players at Cornell University, 1919-1972 and Beyond" contact Roberts at 607-776-3509. It is also available at the Flower-Sprecher Library.

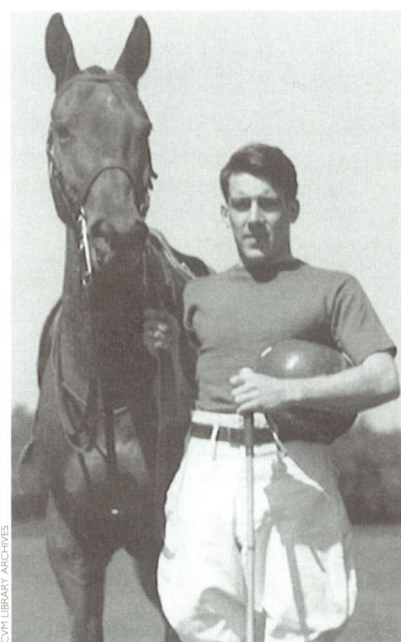
**Bud C. Tennant** DVM, Dipl ACVIM, James Law Professor of Comparative Medicine, Department of Clinical Sciences, has been named chair of the Scientific Advi-

sory Committee of the New England Regional Primate Center at Harvard University.

Among the speakers in December for the National Equine Veterinary Convention in Denver was **Beth A. Valentine** DVM, PhD, Dipl ACVP, assistant professor of pathology. Her topic was "A Severe Muscle Disease in Drafts and Draft Horse Crosses."

**Bonita S. Voiland** joined CVM in July as assistant dean of resources, marketing, development, and public affairs. She is responsible for the Office of Public Affairs and Communications Services. She had been an executive at Crouse Irving Memorial Hospital in Syracuse since 1988, serving first as assistant vice president for communications and then as director of human resources. From 1981 to 1987 she was public relations director at Park Ridge Health System in Rochester, N.Y. Before that, she worked in public relations for the Rochester-Monroe County Chapter of the American Red Cross.

She holds BS and MS degrees from the State University of New York at Albany in mathematics and educational communications, respectively, and a Graduate Certifi-



**Dr. Roberts on the 1937 Intercollegiate Champion Polo Team**



**Ms. Voiland**

cate from Cornell's School of Industrial and Labor Relations.

Thirty-two CVM faculty members were recently cited and thanked by the AVMA for serving as reviewers during the past year for the *American Journal of Veterinary Research* and the *Journal of the American Veterinary Medical Association*.

Looking for a nice holiday present? Try *Olympic Vet*, a recently published memoir of his years as veterinarian to the United States Equestrian Team by **Joseph O'Dea** DVM. The book jacket reports, *Olympic Vet* is only part of the story of 'Doctor Joe' O'Dea who has had a broader and more comprehensive hands-on experience in the world of the horse, both in professional practice and in sport, than one can possibly imagine."

## Recent Retirees

**A. Ann Prince-Rivkin**, grant/contract officer, 20 years of service

**Frederic W. Scott** DVM, PhD, professor, microbiology and immunology, Diagnostic Laboratory, Feline Health Center director, 30 years of service

**Daniel N. Tapper** VMD, PhD, professor, physiology, 35 years of service

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PEOPLE CONTINUED FROM PAGE 17

## In Memoriam

**Stanley M. Aldrich** DVM '50 died in October on Long Island, N.Y. He had owned Aldrich Veterinary Associates in West Babylon, N.Y., since 1951. Long active in professional and alumni activities, Dr. Aldrich served as chair of the College Advisory Council, member of the Cornell University Council, member of the CVM Campaign Committee and Development Committee, and class reunion leader.

He and his wife, Dorothy, established the Stanley and Dorothy Aldrich Scholarship Fund in 1993 perpetually to serve the college and future veterinarians.

Active in the New York State Veterinary Medical Society, serving as president of the Long Island regional VMA and as NYSVMS president, Dr. Aldrich was honored by NYSVMS in 1981 as Veterinarian of the Year and, in 1988, with the Distinguished Life Service Award. In 1982, the American Animal Hospital Association honored him as Outstanding Practitioner of the Northeast Region. The following year, the American Association of Veterinary Medicine awarded him its prestigious AVMA Award, which recognizes outstanding members of the association.

In 1991, Dr. Aldrich was elected to the National Academies of Practice, Veterinary Medicine, for "significant and enduring contributions to veterinary medicine." He was past president of the American Veterinary Medical Association and a ten-year member of the New York State Board for Veterinary Medicine.

Gifts to the College of Veterinary Medicine in memory of Dr. Aldrich may be made by sending a donation to the Stanley M. Aldrich Memorial Scholarship.

**Emeritus Professor Dorsey W. Bruner** PhD '33, DVM '37, Dipl ACVM, Dipl ABM, died in September in Ithaca. Former chair of the Department of Microbiology, Immunology, and Parasitology, Dr. Bruner was a world-renowned bac-

teriologist and one of the world's foremost experts in the field of salmonella bacteria infections. Dr. Bruner was author or co-author of the first five editions of a textbook now called *Hagan and Bruner's Infectious Diseases of Domestic Animals*. He taught nearly half of all living graduates of the College of Veterinary Medicine. He was an instructor at Cornell from 1931 to 1937 and returned in 1949 as a professor. He was an instructor at the University of Kentucky in the Department of Animal Pathology between 1937 and 1942 and from 1946 to 1949.

Dr. Bruner served in the U.S. Army as a bacteriologist from 1942 to 1946 with the rank of Major and received five battle stars during the Italian and southern French campaign. He was later promoted to the rank of Lieutenant Colonel in the U.S. Army Reserve Corps. He was a member of many professional organizations and honorary societies.

Gifts to the College of Veterinary Medicine may be made in memory of Bruner by sending a donation to the Dorsey W. and Beatrice C. Bruner Scholarship.

**John F. Cummings** CALS '58, DVM '62, MS '63, PhD '66, died in November while visiting in New Jersey. He was "Cornell through and through" in the best meaning of the term. Each of his academic degrees were earned at Cornell. After completing his doctoral studies, Dr. Cummings served two years in the Veterinary Corps of the U.S. Army at the Walter Reed Medical Center in Washington, D.C., completing duty in the rank of Captain.

He returned to Cornell's veterinary college as an assistant professor of anatomy in 1967 and was promoted to professor of anatomy in 1977. In 1995, in recognition of the esteem with which he was held by colleagues for his distinguished career in comparative neurology and neuropathology, Dr. Cummings was elected by the faculty to be awarded the endowed title, James Law Professor of Anatomy. The same year, he was elected as Secretary of the Faculty.

Dr. Cummings had taught microscopic anatomy since joining the Cornell University Veterinary College faculty in 1967. He served on many college committees and acted as academic adviser for many veterinary students and PhD candidates. He was held in the highest regard by students and faculty alike for his enthusiasm, strength of character, and dedication to teaching professional and veterinary students in the college. Always willing to share his expertise with members of other departments, Dr. Cummings was considered the ultimate teacher.

He enjoyed his research as much as his teaching and approached it with the same commitment. Although his research interests crossed into many disciplines, he focused much of his energies on the pathology of the peripheral nervous system. Dr. Cummings wrote over 100 scientific papers and recently co-authored a textbook, *Veterinary Neuropathology*. He was particularly interested in studying animal models for human diseases.

Early in his career, his research focused on coonhound paralysis, which provided important information for the study of Guillain-Barre Syndrome in humans. His recent research has been equine motor neuron disease, which he first described in 1990. This disease in the horse is being developed as an animal model for ALS (Lou Gehrig's disease). Dr. Cummings served as editor of the *Cornell Veterinarian* and associate editor of *Progress in Veterinary Neurology*. Contributions in his memory may be made to the College of Veterinary Medicine.

**Thurman C. Vaughn** DVM '44 died in August in Glenmont, N.Y. Dr. Vaughn practiced in Clarksville before opening the Delmar Animal Hospital in 1964. He was past president of the New York State Veterinary Medical Society and served on the NYSVMS executive board. Dr. Vaughn also was a member of New York State Board for Veterinary Medicine and past president of both the Hudson Valley and Capital District veterinary medical societies. ■



## Foundations Host Animal Welfare Fellows



Morna Pixton '98 (left) presents the findings of her project, "Educating veterinary students in preventive behavioral medicine: early puppy behavior modification." Thirty-six Veterinary Student Fellows and their mentors, representing colleges of veterinary medicine across the United States and Canada, were invited to Cornell's College of Veterinary Medicine the last weekend in September by the Geraldine R. Dodge Foundation, principal sponsor of the fellowship program and the resulting 34 student projects designed to improve the welfare of animals.

Students presented their findings to an overflow audience in Lecture Hall I. Scott McVay, executive director of the Dodge Foundation, said that the projects are "of humane consequence on companion animals—vigorous, imaginative, and compelling."

In the audience were representatives of Kenneth Scott Trust, the Bernice Barbour Foundation, Humane Society of the United States, and Massachusetts Society for the Prevention of Cruelty to Animals, cosponsors of the fellowship program.



## Health/Environmental Toxicology Course Offered for Undergrads

They could have called it "Applied Biology-Chemistry-Physiology-Ecology-Risk Analysis-Current Affairs."

Instead, the faculty members who developed a first for Cornell—and one of the few undergraduate courses at any American university to address the health and environmental effects of toxic substances—settled for "Principles of Toxicology."

"Traditionally, toxicology has been taught at the graduate level, in medical schools, or on the undergraduate level in pharmacy schools for students with a heavy science

background, says Stephen M. Penningroth, one of the instructors for the new course. "We wanted to make toxicology accessible to students who don't necessarily have an extensive background in science and to strike a balance between medical toxicology, with its concern for human health, and environmental toxicology, with its concerns for ecosystems and wildlife."

The 3-credit course, listed as Veterinary Microbiology 320, will begin in the spring '97 semester. If students show enough interest, a laboratory class in toxicology techniques may be added, according to a

co-instructor, Rodney Dietert, and the subject may eventually be expanded to become an undergraduate concentration.

In addition to Penningroth, a senior research associate in the Cornell Center for the Environment who taught toxicology in medical schools before coming to Cornell, and Dietert, professor of immunogenetics in the College of Veterinary Medicine and director of the Institute for Comparative and Environmental Toxicology (ICET), the third co-instructor is Stephen Bloom, professor of cytogenetics in

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## An Enduring Gift of Friendship



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Katherine Feldman '97 (right) was presented with the first Isador I. Sprecker Wildlife Medicine Award. The honor will be given annually to a student who is interested in pursuing a career in zoo or wildlife medicine. The award was made possible by Esther Schiff Bondareff '37, a graduate of the College of Agriculture and Life Sciences, in honor of Isador I. Sprecker DVM '39, a dear friend of Mrs. Bondareff who shares her interest in wildlife and zoo medicine. A third- or fourth-year student is chosen for the award by the dean and the Jay Hyman Professor in Wildlife Medicine.

At Homecoming Weekend, Mrs. Bondareff was honored with the Frank H.T. Rhodes Exemplary Alumni Service Award. She is shown in the photo above at Homecoming between her friends and fellow CVM supporters, Dr. Isador Sprecker and Mrs. Sylvia Sprecker.

The Spreckers' names should not be unfamiliar to friends of the college: they have donated several scholarships and, as benefactors of the library, their names adorn the Roswell P. Flower-Isador I. and Sylvia M. Sprecker Library and Learning Center.



ALEXIS WENSKI-ROBERTS



**TOXICOLOGY** CONTINUED FROM PAGE 20

the veterinary college and associate director of ICET.

Among the lecturers will be Eloy Rodriguez, the James Perkins Professor of Environmental Studies in the College of Agriculture and Life Sciences, who will talk on the subject of naturally occurring toxic chemicals in plants.

Other topics in the new curriculum include toxic chemical deposition and transport, toxic chemical metabolism, interactions of chemicals with DNA, and chemical risks to the immune system, as well as population, comparative, and regulatory toxicology.

"Issues of toxic exposure, risk analysis and regulatory policy are as current as this morning's news," says Dean Franklin Loew. "This is an

applied science course that will bring meaning to all the chemistry and biology the students have been learning," he says, noting that the undergraduate course will follow the lead of the new DVM curriculum and be taught, in part, as case-based learning.

"For cases, we may look at something like malathion, the insecticide that is used to control mosquitoes that carry Eastern equine encephalitis, and compare the toxicological risk of using a hazardous chemical with the medical risk of spreading a deadly disease," says Bloom, citing one example.

At Cornell and at many other universities, as many as half the premed science students become discouraged and look for alternatives to medical school, including

health-related fields, observes Walter R. Lynn, professor of environmental engineering and director of the Cornell Center for the Environment.

"This course will show that it is possible to develop a career in toxicology with a bachelor's or master's degree—or to go on to a PhD in a field with real relevance for human and environmental health," Lynn says.

And even if students don't make toxicology their career, there should be lifelong benefits to the class, Dietert notes.

"This class will help people deal with their own concerns and perceptions of risk," he says. ■

## Scholarship Reception



Garrett Davis '98 and his wife, Ruth Davis (center), met George DVM '40 (left) and Polly Wiswall (right) at the college's scholarship reception for students and donors on September 20, 1996. Dr. and Mrs. Wiswall provided the principal funding to establish the Robert I. Ashman '40 Memorial Scholarship fund, of which Garrett is the first recipient.



Mrs. Patricia Mayhew (left) with Nicole Paccione '99. Nicole is one of this year's recipients of the Ronald F. Mayhew '63 Memorial Scholarship fund, which was established in 1993 by family and friends of Dr. Mayhew.



# Restructuring Will Address Coming Challenges

**E**xpanding one department, merging three departments into one new department, and creating a new associate deanship—these changes will be part of a reorganization of the college's administrative structure, to be put into place by July 1997. Dean Franklin Loew, who considered suggestions and proposals for more than eight months, says the reorganization is necessary to "allow our college to manage through financially challenging times, better harmonize our curriculum and structure, and restate our college's and my bedrock commitment to the science and art of veterinary medicine for our second century and the new millennium."

## Expanding the Scope of Clinical Services

A new associate deanship for clinical and diagnostic affairs will be created to unify the clinical and academic functions of the Diagnostic Laboratory, the Department of Clinical Sciences, and the Veterinary Medical Teaching Hospital and to chair the Department of Clinical Services. The department vice chairs and directors of the Companion Animal Hospital, Equine and Farm Animal Hospitals, and Diagnostic Laboratory will report to the associate dean.

"Structuring the expanded department into functional sections along large animal and small animal lines recognizes the form of species orientation that is present in the real world," says Loew. "The vast majority of practices our graduates enter are oriented to small animal and large animal, not medicine and surgery."

Bringing all service units under a common administrative structure that includes the Diagnostic Laboratory allows for synergy and greater efficiency, the dean says. Additionally, the structure will unite both service and academic functions of the present Department of Clinical

Sciences and the Veterinary Medical Teaching Hospital.

## Joining Three Departments

The current departments of anatomy, physiology, and pharmacology will merge into a single unit, the name of which will be determined by the members of the new department. Dean Loew says that this merger will establish an administrative unit that is more comparable in size to other academic departments, facilitate the handling of curricula units, allow for greater development of leadership skills among junior faculty, and encourage interdisciplinary crossover.

The configurations of the Department of Microbiology and Immunology and the Department of Pathology will remain much as they are currently, although some faculty members may choose to join another department.

## Reducing Costs

The financial savings of streamlining administrative structures was pivotal in Dean Loew's analysis.

"State support for the College of Veterinary Medicine has been reduced 19 times since 1988," he says. In total, CVM has lost 25 percent (\$3.8 million) of permanent New York State base support and another \$1.1 million on onetime take-aways. This has resulted in the loss of 10 faculty positions. During the same period, tuition increased by \$5,000, an annual average of nearly 6 percent, a rate that cannot be sustained indefinitely, he concludes.

The financial picture for state support in 1997-98 and beyond is uncertain. New York State will continue to struggle with its budget, and the state university system will grapple with distribution of support among its 34 campuses, the dean says. He notes that support to Cornell has been criticized by other SUNY college campus presidents and will most likely continue to be under fire.

Although the college budget is balanced for this year, there is no flexibility to invest in high-priority programs such as clinical oncology, critical care medicine, or medical genetics or to address unavoidable increases such as those associated with the disposal of pathological waste or investment in badly needed new administrative systems.

## Implementing the Changes

Dean Loew has formed teams to recommend transitional steps in each area. Additionally, committees have been organized to undertake national searches for the associate dean and chair of clinical and diagnostic services and for the vice chair and hospital director for companion animals, and internal searches for the vice chair and hospital director for equine and farm animals and for the chair of the new department that will encompass the current departments of anatomy, physiology, and pharmacology. ■

## Student Ambassador Program

The College of Veterinary Medicine has launched its own Student Ambassador Program. Modeled after Cornell's undergraduate student ambassador program, selected second- through fourth-year veterinary students have been trained to give tours of the college and its new facilities. If your group would like a tour or if you know any aspiring veterinarians (ages 14 and older, please) who would like to see our facilities, please contact Alison Smith in the Office of Public Affairs at 607-253-3744.



## Our Holiday Wish List

### Creative Giving Opportunities

**Y**our gifts are vital to help maintain the margin of excellence in the college's education, research, and public service programs. Below are some examples of programs and activities that depend on private support. To make a gift or to obtain more information about these and other gift opportunities at the college, contact Alison R. Smith, associate director of alumni affairs and annual giving (phone: 607-253-3744; fax: 607-253-3740; e-mail: arsl@cornell.edu).

#### Expanding Horizons international program, up to \$10,000.

This program provides an opportunity for veterinary students to spend a summer working in a veterinary practice or on a research project in a lesser-developed country. This past summer, students visited Ecuador, Kenya, South Africa, Taiwan, and Uganda to gain experience in international veterinary medicine. A gift of \$1,500 to \$3,000 will support one student's travel and living expenses.

#### "Adopt-a-Biomedical-Journal" program, minimum \$20 per year.

As the cost of biomedical journal subscriptions continues to rise, the Flower-Sprecher Library is looking for one-time contributions to relieve its budget. Journal titles range from those in the basic sciences to specific veterinary fields. A special notice recognizing each donor to this program will be included in every issue of the journal they support and the complete volume when bound.

**Two computers**, IBM (or IBM compatibles), for the Flower-Sprecher Library, approximately \$2,500 each.

This equipment will allow public access to the World Wide Web and other Internet-based electronic

resources. The library's current public computers are inadequate to run the necessary software programs of Windows, Netscape, or for Internet access.

**Three slit lamps for ophthalmology rooms** in the Companion Animal Hospital, \$15,000 each. Slit lamps are essential for examinations of the retina, lens, and other inner parts of the eye. The current lamps are in dire need of replacement.

**Closed circuit video system equipment**, cost varying depending on equipment.

The wiring for this new system is in place in the new teaching hospitals, but current funds are insufficient to purchase the following necessary equipment:

- Five "in-surgery light" TV cameras to allow remote observation and recording of surgical procedures, \$11,000 each
- Eleven wall-mounted TV cameras for observation of animals recovering from anesthesia, \$717 each
- Seventeen 19" color TV monitors for remote observation of surgical and medical procedures, \$135 each
- Four 27" color TV monitors for remote observation of procedures and demonstrations, \$365 each
- Ten VCRs for videotaping surgery and other procedures, \$400 each

**Class of '55 Scholarship fund**, \$5,651.

This fund is just \$5,651 short of becoming an endowment fund and being able to award its first scholarship. Once the fund reaches the necessary \$25,000, the principal can be invested and any earned interest will be awarded to veterinary students in need of financial assistance.

**Class of '70 Scholarship fund**, \$1,934.

Currently at \$8,060, this scholarship was established when the minimum endowment level was \$10,000. Thus Cornell has "grandfathered" this fund at that level. Classmates are encouraged to send in their support to bring the total to \$10,000 so the first scholarship can be awarded next year. ■

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### CORNELL Veterinary Medicine

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For more information about the college, visit our site on the World Wide Web at <http://www.vet.cornell.edu>

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CORNELL  
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**Calendar of Events**

(Events are at Cornell unless otherwise noted. Call 607-253-3200 with questions about continuing education programs; call 607-253-3744 for information about other events.)

**December**

- 9 Alumni Reception, Denver, at the AAEP Conference

**January 1997**

- 14 Alumni Reception, Orlando, Fla., at the North American Veterinary Conference

**March**

- 21-23 Annual Conference for Veterinarians  
24-26 College Advisory Council meeting

**April**

- 13 31st Annual Open House

**May**

- 25 Commencement

**June**

- 5-8 Reunion Weekend

**Ready to Go, with a Clean Bill of Health**

This bewhiskered river otter was a recent visitor to the college as part of a program to restore the river otter population in central New York waterways.

"We give the otters complete physical exams, check for parasites and evidence of other infectious diseases, and treat any problems that we find," explains George Kollias DVM, PhD, the professor of wildlife medicine who is project director. Veterinary students and wildlife medicine technicians record the animals' vital statistics day by day, making certain the otters are healthy enough to release back into the wild. The otters also receive microchip identification devices implanted beneath their fur so they can be permanently identified once released.

The program is a collaborative effort of the College of Veterinary Medicine, the New York River Otter Project Inc., and the New York State Department of Environmental Conservation.

For Cornell students, the River Otter Project is a good opportunity to work with an unusual species of wildlife, says Kollias, the Jay Hyman Professor in Wildlife Medicine at the college.

"We don't know nearly enough about the biology and health problems of river otters, so this is a chance to learn a great deal that may help maintain healthy populations and contribute to other translocation projects," he says.



ALEXIS WENSKI/ROBERTS