New DVM Curriculum in Full Stride

Last fall as the college kicked off its year-long Centennial Celebration and a Cornellian blasted off into space as the first veterinarian astronaut, another equally important “first” occurred when Cornell launched its new DVM curriculum.

Now that the class of 1997 is deep into the second year of the new program, we’d like to show you how things are working. The accompanying photographs were taken in September, during the fourth and fifth weeks of the fall 1994 semester.

Although the subject matter has not changed substantially, the new curriculum represents an innovative change from the former approach to teaching at Cornell—and a break in tradition from most other veterinary schools in the country.

Previously, the first three years of the curriculum were taught in a lecture/laboratory format, in which each class took 90 percent of their courses together in large groups. Now, the preclinical material in the first one-and-a-half years is taught in a case-based context in small tutorial groups of six or seven students working directly with a faculty member.

(continued on page 4...)

The Animal Body
(first-year)
Integrates gross anatomy, histology, developmental anatomy, radiography and imaging, and an introduction to surgical principles. Provides an understanding of normal anatomy (from the whole animal to the microscopic level).

A group of students work with Dr. Linda Mizer, Anatomy (second from right), in a gross anatomy laboratory session.

In Animals, Veterinarians, and Society first-year students are learning how to conduct physical exams, this week focusing on structures of the head.

Dr. Susan Hackett, Anatomy (center), talks about comparative muscle and fiber typing during a microscopic anatomy session in the new learning laboratory in the Veterinary Education Center.

A tutorial group facilitated by Dr. Brian Farrow, chair of Clinical Sciences (left), discusses a case involving a dog with congenital heart disease.

Photos by Alexis Wenski-Roberts, Biomedical Communications
Canine Distemper In Serengeti Lions

Using a special assay, Dr. Max J. Appel, DVM, PhD, a virologist in the James A. Baker Institute for Animal Health, has confirmed that canine distemper is the mystery disease that recently wiped out one-third of the 250 lions in the Serengeti National Park in Tanzania.

Veterinarians of the Tanzania National Park Service sent blood and tissue samples from 60 of the lions to several universities in Tanzania, Switzerland, and the United States for analysis. Dr. Linda Munson, a veterinary pathologist at the University of Tennessee in Knoxville, first suspected viral distemper and forwarded tissue samples from 60 of the lions to mathematician DVM, PhD, a virologist in the Hematology Laboratory, which provides hemostasis testing and consultation for veterinarians, breeders, and biomedical researchers throughout the United States and Canada, becomes part of the college's

Animal Instincts On the Air

With a grant from theRalston Purina Company, the college is producing a new daily radio program that will be aired on public radio stations beginning in November. Called “Animal Instincts,” the program is designed to educate listeners about a variety of health issues that affect companion animals and their owners, as well as wildlife and exotic animals.

Each episode is 90 seconds long, and more than 130 programs have already been produced for airing in the first six months. They include such diverse topics as: signs of good pet health, why cats purr, sweet-toothed pets, dog dentistry, poisons and pets, spying and neutering, feline overpopulation, ferrets as pocket pets, feeding a python, birds and lawn chemicals, homeopaths and horses, and common aquarium problems.

Animal Instincts will debut on east coast stations this fall. By the end of next year, the program is expected to air on up to 75 stations nationwide, as well as on some 100 Voice of America and PRI-affiliates in Europe.

Comparative Hematology Lab

In November, the Comparative Hematology Laboratory, which provides hemostasis testing and consultation for veterinarians, breeders, and biomedical researchers throughout the United States and Canada, becomes part of the college's

Rabies Bait Study

A field study to test the efficacy of a new bait for delivering oral rabies vaccine to raccoons was conducted this summer by Cornell's Diagnostic Laboratory. The trials were done in collaboration with the Ontario Ministry of Natural Resources (OMNR).

Cornell's is the first U.S. field trial of a bait developed by OMNR from one used successfully in Canada to vaccinate foxes.

To test the attractiveness of the bait in both the urban and rural raccoon populations, 3,600 placebo baits were dropped by air over an 18.5-square-mile area of Tompkins County. An additional 1,600 were set out in the city of Ithaca and adjoining village of Cayuga Heights. Each contained a biological marker (iodine). Several weeks after the bait distribution, Cornell veterinary students live-trapped raccoons in the target areas and tested their blood for the biomarker. The results were extraordinarily positive: 91 percent of the urban raccoons and 86 percent of the rural animals tested had consumed the bait.

Raccoon rabies, which is spreading through the northeastern United States toward Canada, was reported at “epidemic” proportions in the Ithaca area in 1992. A rabies section established in the Diagnostic Laboratory that year has since vaccinated hundreds of raccoons in the area in a trap-vaccinate-release (TVR) program. TVR, however, requires an intramuscular injection of the vaccine and is both time-consuming and expensive.

The oral rabies vaccine is still pending approval by the U.S. Department of Agriculture, but the results of Cornell’s baiting study hold great promise for more research on new vaccination strategies to control the spread of the disease.

Headstart for Threatened Turtles

Dr. George Kollias, the Jay Hyman Professor of Wildlife Medicine, has received a grant from the New York State Department of Environmental Conservation (DEC) and the Nature Conservancy for a pilot project to help stabilize the population of a threatened species of turtles in eastern New York.

Using a conservation approach known as “headstarting,” he and his staff and students will raise a group of Blanding’s turtles until they are large enough to have a better chance for survival in the wild.

Early in September, 11 hatchlings, about one-and-a-half inches long, were collected by Nature Conservancy staff from nest sites in Dutchess County and brought to a DEC facility in Ithaca. By next summer the turtles should be 3-4 inches long, large enough to be safely returned to their original habitat.

Little is known about the physiology of this species, and the project thus offers an opportunity to build a health database. Dr. Kollias is also working with the Nature Conservancy and the DEC on techniques to effectively track and monitor the growth and health of the turtles after they are released.

In addition to gaining knowledge that could aid in conserving other species of turtles, Dr. Kollias anticipates that the project will lead to an expanded role for the college in working with the Nature Conservancy and the DEC to save other threatened and endangered species in New York.
Dean Robert D. Phemister, DVM '60, PhD, has announced he will step down in June, after presiding over the college for a decade. Referring to the years which brought sweeping changes in the faculty, curriculum, and physical facilities, as well as new strength to its endowment, Phemister says he feels “very fortunate that, for a lot of complicated and not necessarily predictable reasons, many things were possible.”

“It has been a very good period in the life of the college,” he says. “Now it’s time for new leadership.”

After a year’s leave for “retooling,” Phemister, who holds the rank of professor of pathology, will return to the classroom. “I look forward to participating actively in the new curriculum,” he says. “The opportunity to read and think in my own discipline again is very exciting.”

But there’s much to be done while the search committee, chaired by Provost Malden Nesheim, goes about the arduous task of finding his successor. Phemister cites two tasks that will occupy much of his energy in the coming months. The first is to assure that the college’s budget will be in a “steady state” after covering the additional expenditures required to redesign and implement the new curriculum.

“Before leaving I want to be certain that the new program is secure both in terms of its funding and the organizational arrangements for its support,” Phemister says.

Then there’s the complex task of allocating space in the new Veterinary Medical Center. “We have a responsibility to ourselves and the public to see that this wonderful new building is fully utilized. The faculty with the greatest need right now,” says Phemister, “are those who work in the teaching hospital and those with the most active research programs.”

Anticipating his return to teaching, a pleasure he’s not had in 12 years, Phemister indicated that he looks forward to resuming a faculty role. “About 45 percent of the faculty are new since I came,” he says, noting that one of his goals as dean was to be sure “we have a strong representation of both veterinarians and biomedical scientists who are able to use the new tools of biology, particularly the ability to work at the molecular level.”

In anticipation of joining his colleagues in a new role, Phemister spent five weeks this fall as a tutor in the new foundation course Function and Dysfunction. In addition to being enjoyable, Phemister says it was an experience that reinforced his belief in the case-based tutorial method as the preferred way of helping students to learn veterinary medicine.

Clearly the best part, though, was being with the students. “They’re highly motivated, extraordinarily intelligent, really hard working,” he says of the six in his tutorial group. “I was very impressed.”
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| Year 2 | | |
|--------| | |
| Function and Dysfunction: Part II | Host, Agent, and Defense | |
| | | A.V.S. |

| Year 3 | | |
|--------| | |
| Animal Health and Disease: Part II | | |
| Animals, Veterinarians, and Society (A.V.S.) | Distribution Courses | Clinical Rotations |

| Year 4 | | |
|--------| | |
| | Distribution Courses | Clinical Rotations |
| (12 months: June to May) | | |

The problem-solving tutorial format is the basis for the first four interdisciplinary Foundation Courses—*The Animal Body; Genetics and Development; Function and Dysfunction; and Host, Agent, and Defense*. The tutorials emphasize a comparative approach to the basic biomedical sciences and the fundamentals of clinical medicine. Cases studied in the tutorial sessions give students an opportunity to integrate knowledge and practice. Lectures, hands-on laboratory sessions (some with live animals), interactive computer courseware, and independent study supplement the tutorial sessions in these courses, which are offered in the first and second years. Clinical rotations in the Veterinary Medical Teaching Hospital begin during the spring semester of the third year and are offered to fourth-year students throughout the calendar year.

Foundation Courses are associated with sets of Distribution Courses that provide opportunities for students to gain in-depth knowledge in a particular discipline by focusing on a specific topic or species. Thus, while the curriculum still ensures a broad biological and veterinary medical education for all students, the distribution courses enable them to pursue individual goals or interests as well.

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**New Curriculum in Full Stride**

*Function and Dysfunction* (first and second years)
integrates physiology, cell biology, pathology, histopathology, and pharmacology. Develops an understanding of how the animal body maintains itself as a healthy organism and how it responds to disease.

Below: Daryl Nydam '97 lists the learning issues the group has identified from the case study.

Dr. David Robertshaw, chair of Physiology (right), guides his tutorial group of second-year students in *Function and Dysfunction* through a case on canine reproduction.

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Photos by Alexis Wenski-Roberts, Biomedical Communications
First-year students perform physical examinations on their own dogs and cats in the Animals, Veterinarians, and Society segment that correlates with The Animal Body foundation course.

Animals, Veterinarians, and Society (offered concurrently with other Foundation Courses)
Addresses practical, theoretical, and ethical issues that affect how veterinarians relate to animals, people (clients, associates, and other members of the profession), and to society as a whole. As a correlate to The Animal Body, covers physical examination for each of the body systems of the major animal species. As a correlate to Function and Dysfunction, focuses on clinical interviewing, the human-animal bond, grief counseling, medical records, and information management.

The goals of the new curriculum are to make the DVM program more flexible for both students and faculty, to better integrate the clinical sciences with the basic sciences, and to facilitate a learning process in which students assume greater responsibility for their own progress. To keep pace with continuing advances in both knowledge and technology, today's veterinary students are developing the skills they will need to solve clinical problems in practice—not only immediately after graduation, but 10, 15, and more years down the road as well. And just as importantly, they are learning how to communicate and work more effectively with clients and colleagues.
People, Honors, and Awards

Dr. Leland E. Carmichael, DVM, PhD, Dipl. ACVIM, was presented with the first American Kennel Club Career Achievement Award in Canine Research at the AVMA's annual meeting in July. Carmichael, the John M. Olin Professor of Virology in the James A. Baker Institute for Animal Health, is an international authority on infectious diseases—primarily diseases of dogs.

During his career he has contributed to five United States patents and 35 foreign patents in the areas of animal diagnostics and vaccines. He chaired the Research Council of the AVMA and served on the Council of the American Society of Virology. He has twice been interim director of the Baker Institute.

Dr. Brian R. H. Farrow, BVSc, PhD, MRCVS, FACVS, professor of medicine and chair of the Department of Clinical Sciences, received the 1994 World Small Animal Veterinary Association's Award for Scientific Achievement. The presentation was made in October in Durban, South Africa.

Dr. Francis H. Fox '45, DVM, Dipl. ACVIM, has received the 51st AVMA Award in recognition of his "contributions to the advancement of veterinary medicine in its organizational aspects" and for possessing the true "veterinary spirit" of fellowship, volunteerism, and commitment to animals.

Fox, an emeritus professor of medicine in the Department of Clinical Sciences and a distinguished member of the AVMA, has a long history of service to state and national veterinary organizations. For 14 years he participated on the AVMA District 1 Executive Board, served two terms as district chair, and was on the Judicial Council for five years. He also is a past president of the American Association of Bovine Practitioners.

Harold F. "Skip" Hintz, MS, PhD, has been selected for the first Distinguished Adviser Award by the senior class of the College of Agriculture and Life Sciences. Hintz has been a member of the Veterinary college Department of Clinical Sciences since 1967 and holds a joint appointment in the CALS Department of Animal Science, which he currently chairs. There were more than 40 nominees for the award.

In each of the 27 years he has taught courses on animal nutrition, Hintz has averaged 20 to 30 CALS advisees, of whom three-quarters hope to enter a veterinary school. "I enjoy working with pre-vet students," says Hintz. "They're a bright, enthusiastic group of young people."

For the past nine years Hintz has been faculty adviser to the Pre-Vet Association.

The generosity with which Hintz shares his time with others was recognized earlier this year when his alma mater, The Ohio State University, inducted him into its Animal Science Hall of Fame, in part for having "practiced service to others."

Robert E. Oswald, PhD, professor in the Department of Pharmacology, has received a Guggenheim Fellowship to support research at the Harvard Medical School during his 1994-95 sabbatical leave.

Oswald will study the structure of glutamate receptors—essential proteins for communication between cells in the nervous system—and the intracellular signaling proteins, which are involved in cell transformation and cancer. Determining the structure of these intracellular signaling proteins will aid in understanding the specific molecular aspects of the changes in cells that lead to cancer, and perhaps suggest therapeutic targets.

Oswald is one of 147 artists, scholars, and scientists chosen from 3,157 applicants for this year's fellowships. Guggenheim Fellows are appointed on the basis of unusually distinguished past achievements and exceptional promise for future accomplishment.

Edward J. Pearce, PhD, assistant professor in the Department of Microbiology, Immunology, and Parasitology, has received the Burroughs Wellcome Foundation New Investigator Award. The recognition comes for Pearce's research on schistosomes, and carries with it a three-year grant in support of his studies.

Schistosomes are the causative agents of schistosomiasis, a chronic disease affecting more than 200 million people and countless domestic livestock in developing countries. The eggs from this long-lived parasite provoke an intense immune response—similar to an allergic response—once they are trapped in key organs such as the liver, bladder, and/or intestine of mammals.

Among the questions Pearce hopes to answer: What is occurring at the cellular and molecular level? Another is to determine how the schistosomes recognize an optimum site for maturation in the host's body, and how they communicate with their host and each other.

College Cited as 'Top Vet School'
The latest U.S. News & World Report magazine survey of "America's Best Graduate Schools" ranked the college as Number One in the nation for the degree of doctor of veterinary medicine.

The ranking was based on questionnaires sent to deans and other academic leaders of accredited veterinary schools asking them to evaluate veterinary schools' reputations for scholarship, curriculum, and the quality of faculty and graduate students using a 5-point scale. Based on those questionnaires, the college's reputational score was a 4.80.

Dean Robert D. Phemister characterized the survey as primarily a "popularity contest," adding: "While I have some quarrel with the methodology, I agree with the results."

Centennial Communications Garner State, National Awards
The college has received two prestigious awards for a variety of communications pieces created for the 1993-94 centennial celebration. Those receiving the SUNY Council for University Affairs and Development 'Award for Excellence' in the Media-Communications category include a video, a centennial calendar, a portable exhibit, a permanent exhibit, and a commemorative book, all illustrating the history of the college.

Two of the above, the commemorative book and the calendar, both titled "A Centennial Celebration: 100 Years of Creating a Healthier Future for Animals and People," received one of the three Gold Medal Awards given nationally by the Council for the Advancement and Support of Education (CASE) in the Special Program Publications category.
Antczak Named to Head Baker Institute

Dr. Douglas F. Antczak, VMD, PhD, the Dorothy Havemeyer McConville Professor of Equine Medicine, became the new director of the James A. Baker Institute for Animal Health on July 1.

"Directing the Baker Institute is an exciting challenge and one that I readily undertake," says Antczak. "It has a history of important contributions to animal health and the resources to continue the traditions of service and research that have marked the institution from its founding."

Antczak, an authority on equine immunology and reproduction, graduated from Cornell in 1969. He received his VMD from the University of Pennsylvania School of Veterinary Medicine and his PhD from the University of Cambridge, where he studied immunogenetics and transplantation biology.

Since his return to the college as an assistant professor of immunology in 1978, Antczak has focused his research on the major histocompatibility complex (MHC) in horses.

The National Institutes of Health has supported Antczak’s research on reproductive immunology in horses for the past 15 years. His various projects have ranged from whole- animal embryo transfer experiments to molecular biological studies in cloning and sequencing genes from the horse placenta.

“The thrust of our research,” Antczak says, “is really not so much to find out what goes wrong but to find out why and how things go right so often in pregnancy. How the fetus manages to evade destruction by the maternal immune response is a fascinating question with importance to both human and animal reproduction. In addition, the information we are discovering about how the placenta controls the expression of histocompatibility antigens has applications in other fields, including human organ transplantation and tumor growth.”

His work advances the understanding of tumor biology because the placenta behaves very much like a tumor in that it grows without being rejected by its host. “One of the mechanisms tumors use to avoid being rejected or destroyed is also used by the placenta,” says Antczak. “This involves gene regulation of the MHC antigens.”

In recognition of his many contributions, Antczak has been appointed an Honorary Research Fellow of the British Thoroughbred Breeders' Association Equine Fertility Unit of Newmarket, U.K.

Antczak succeeds Dr. Gustavo Aguirre, VMD, PhD, who returned to his research and academic activities after 18 months as the institute’s director. Dean Robert D. Phemister noted that Aguirre "has been a strong and effective advocate for the programs of the institute during a time of unprecedented growth and activity. I am delighted that he will be staying as the Caspary Professor of Ophthalmology." 

Blood DNA Test Developed for Canine Blindness

A new blood-based DNA test that detects the genetic defect causing progressive retinal atrophy (PRA) in Irish setters has been developed by researchers in the James A. Baker Institute for Animal Health.

The test, a major breakthrough in preventing PRA, one of the leading causes of blindness in dogs, was developed earlier this year by faculty members in the Inherited Eye Disease Studies Unit (IEDSU) of the Baker Institute. The scientists, Drs. Gustavo D. Aguirre, Kunal Ray, and Gregory Acland, are studying several different forms of PRA in dogs.

The test is unequivocal, risk-free, and need be performed only once to determine: 1) if the animal will become blind due to PRA, 2) is a clinically unaffected carrier, or 3) is free of the disease-causing defective gene. It can be performed at any age, even shortly after a dog’s birth.

Like retinitis pigmentosa in humans, PRA is not a single disease but a related group of several. Seven known varieties are suspected to occur in over 80 different breeds. There is no known treatment or cure.

Although the new test identifies only the one form of PRA specific to Irish setters, it is a critical first step in developing DNA screening techniques for other types of hereditary retinal disease. Researchers at the IEDSU are on the trail of developing similar tests for other forms of PRA. When these become available, it will be possible to prevent or eliminate most hereditary canine retinal blindness.

Other Construction Projects Enhance College's Resources

While all eyes are on the final stages of finishing the Veterinary Medical Center, four other less visible but no less important construction projects have been under way elsewhere on campus. All are funded by the State of New York.

- **Small Animal Holding Facility**
  This $1 million new building project located at the college’s Snyder Hill complex was completed in September 1992.

- **Large Animal Biosafety Facility**
  This $2 million renovation and new construction project was recently finished on the Snyder Hill complex.

- **Poultry Isolation Facility**
  The renovation of this facility, located just east of the new Veterinary Medical Center, will be completed by summer 1995. The cost is $2.2 million.

- **Fume Hood Exhaust Modification**
  Nearly $1 million was spent to upgrade the fume hood exhaust system in the Veterinary Research Tower and to reroof the building. Both were completed in October.
Library Name Change Honors Isidor and Sylvia Sprecher

In a reunion weekend ceremony held last June, the college library was formally renamed the Roswell P. Flower–Isidor I. and Sylvia M. Sprecher Library and Learning Resources Center.

The renaming honors Dr. (DVM '39) and Mrs. Sprecher for their many generous gifts over the years in support of the library and general programs at the college.

The library was first named after Roswell P. Flower, the governor of New York who in 1894 signed the legislation that chartered the Veterinary College as the first state-supported college at Cornell. Three years later Flower made a personal gift of $5,000 to help the new college establish a library.

At the turn of the century the library occupied two rooms in James Law Hall and contained 1,754 bound volumes, including the personal collections of Dr. James Law (the college’s first dean), Dr. John Bustead, and Dr. W.L. Zuill, which form the core of today’s rare book collection. It then carried subscriptions to about 30 technical journals.

In August 1993, the library facility expanded into the newly constructed Veterinary Education Center. A 50 percent increase in square footage on two levels now provides for a new entrance on the second floor of the center, increased office space, a larger reading room, easily accessible shelving for current periodicals, and compact shelving space for 40,000 more bound volumes.

Today the Flower-Sprecher Library is second only to the Libraries of Congress in the size and scope of its veterinary collection. It now has 85,878 bound volumes, nearly 29,000 audiovisual items, and more than 1,100 current periodicals and annuals.

Electronic literature searches and other computer-assisted advances in library technology were introduced in the mid-1980s. Today, faculty and students can gain access to the library’s catalog (and those of all other Cornell libraries) via computer from their homes, offices, or laboratories—as well as the computers in the library itself.

This fall, the electronic link was expanded to include the MEDLINE database of the National Library of Medicine, which indexes articles in 3,200 biomedical publications. The library’s newest service, to begin later in the year, will provide faculty and students with printed copies of articles indexed on MEDLINE.

“These advances, and others to come, make it possible for the college community not only to use our own resources more quickly and efficiently but also to obtain information stored in libraries all over the world," says veterinary librarian Susanne K. Whitaker.