The Flower-Sprecher Library: coming to a desktop near you.
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Michael Kotlikoff has a favorite slide that shows the impact of recent advances in technology on biomedical research. In 1997 gene expression studies involved looking at one gene at a time. The advent of microarray technology in the following year made it possible to screen 86 genes at once. By 1999 that number was 11,000. “Now it is possible to look at the expression of all the genes in a genome in one experiment,” he says, “30,000 genes at a time.”

Kotlikoff has shown this slide quite a bit since becoming chairman of the Department of Biomedical Sciences in July, 2000. In the midst of leading the department, recruiting more than a half-dozen faculty members, running a major research program of his own, and setting the university on the course of transgenics research as chairman of the university’s Mammalian Genomics Thrust Committee and director of the Cornell Core Transgenic Mouse Facility, Kotlikoff has diligently made the rounds introducing staff, alumni, college and university trustees, and campus and government policymakers to the wondrous new reality of biomedical research.

“We have witnessed an explosion of biological information within the past four years,” he says. “We have seen more progress in that time than occurred over the last two decades. The flood of data has brought a shift from the focus on a single protein in a single biological process to the simultaneous determination and study of all gene products in a biological system. This can only have a much-accelerated impact on our understanding of disease in domestic animals.”

As the first chairman of the Department of Biomedical Sciences – which was formed in 1998 from the merger of the former departments of physiology and anatomy and part of the pathology department – Kotlikoff was handed a mandate by the department to build new research programs designed to foster a shared focus on mammalian gene function, whether at the level of the molecule, cell, or whole animal. The department’s strong research basis in reproductive physiology, pathology, developmental biology, and cell biology will benefit from the molecular-based core facilities that Kotlikoff has helped bring to the college. He views the broad reach of the department as a definite asset: “I was intrigued and really captivated by the possibility of building a new, multi-disciplinary department – something forward-looking that would set up the college for biology in the next decades.”
One of the first challenges and opportunities for Kotlikoff was to rebuild the department's numbers in anatomic pathology. He recently hired Bradley Njaa, a diagnostic pathologist, and is currently recruiting a senior pathologist. Ana Alcaraz, another diagnostic pathologist, recently joined the department after a one-year appointment in the Diagnostic Laboratory. Positions for two research pathologists remain to be filled. The other pathologists in the group are professors Donald Schlafer, Clive Huxtable, and Brian Summers and assistant professor Sean McDonough. Of the six pathologists on the faculty, Njaa and Alcaraz carry the heaviest diagnostic service load, but all contribute to the college's essential mission to serve the veterinarians of New York State and the clients of the Cornell University Hospital for Animals.

Kotlikoff describes the pathology service as a "window to the outside world," an opportunity to study naturally occurring disease in tumors and other tissues removed from patients treated in the Cornell University Hospital for Animals. He has a proposal in the works with Comparative Cancer Program director Rodney Page to establish a genotyping service for canine lymphoma and osteosarcoma tumors. The purpose of the service would be to apply the large-scale screening techniques of genomics to determining gene expression in malignant tumors. "The goal of the cancer program's faculty is to identify the key genes involved in these cancers and know more about the biology of these tumors to determine the best way to treat them," he explains. "Here the existence of gene expression array and laser-microdissection facilities and expertise at Cornell can directly lead to improvements in animal health."

Although the hope is that such studies will bring true benefit to companion animals, the power of the technology they employ comes from the knowledge that has been gained in studying the genomes of two decidedly different mammalian species - our own and that of the

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**A Bit About Michael Kotlikoff**

After graduating at the top of his class from the University of Pennsylvania School of Veterinary Medicine, Michael Kotlikoff completed a PhD in physiology at the University of California, Davis. He then returned to Penn as an NIH postdoctoral fellow in the Cardiovascular-Pulmonary Division of the School of Medicine. He was hired the following year as an assistant professor in the Department of Animal Biology of the veterinary school; one year later he was also made a faculty member in the medical school's Cardiovascular-Pulmonary Division, a joint appointment he maintained until leaving Penn. In 1995 he was promoted to professor in the Department of Animal Biology.

Kotlikoff came well prepared for his administrative duties as chairman of the Department of Biomedical Sciences and director of Cornell's Core Transgenic Mouse Facility. He chaired the Department of Animal Biology...
Alexander Nikitin demonstrates a state-of-the-art Leica laser microdissection unit that he uses in his studies of gene expression in cancer cells. The apparatus uses a laser to dissect portions of cells as small as a single chromosome. The samples then drop into a PCR tube below. Nikitin uses a specialized computer mouse to delineate on the monitor display the area to be cut by the laser.

In addition to this unit, which the college purchased, Leica has provided two sophisticated microinjection microscopes to the mouse transgenics facility on longterm loan and will soon install a fully automated system for transgenic manipulations. Leica has made this very advanced technology available at no cost to the college so that scientists here can test the equipment.

For this reason, Kotlikoff is focusing strongly on murine (rodent) pathology as he expands the program. He aims to merge the traditional skills of histopathology with the new departmental focus on functional genomics. A principle element in that program is the development of expertise and training programs in mouse pathology, an area where highly trained veterinarians are essential partners in research efforts to understand gene function. His goal is to

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mouse. At the genome level, information often translates quite well from one mammalian species to the next. While there are exceptions, particularly in the area of behavioral research, the choice of which animal to study usually has less to do with the potential clinical applications of a discovery than with more practical considerations. Those include the availability of techniques such as gene targeting and the cost and speed of doing the research in an era when the expense and complexity of biotechnology continue to climb very steeply. In terms of economy of facilities, equipment, breeding times, genetic methods, and the availability of already genetically engineered study models, the overwhelming advantage in animal biology today belongs to research involving the mouse. As Kotlikoff sums it up, “The mouse is the consensus organism in mammalian experimental biology, and will teach us much about disease in domestic animals.”

during his last five years at Penn and was instrumental in establishing the Center for Animal Transgenesis and Germ Cell Research, which he directed from 1998 until his move to Cornell.

Kotlikoff is also highly regarded as a teacher and has considerable experience in graduate and professional education. He taught physiology, neuroscience, and pharmacology to veterinary and medical students at Penn and was very involved in curriculum innovation and the incorporation of new technology into teaching. At Cornell he has formed a college-wide review committee to evaluate and recommend improvements to the courses in the preclinical veterinary curriculum. Much of this curriculum – which covers anatomy, cell biology, genetics, developmental biology, molecular biology, physiology, and some pathology – is taught by members of the Department of Biomedical Sciences.

In his research, Kotlikoff is interested in understanding the specific molecules involved in the calcium-release complex in cardiac and smooth muscles and the role of those molecules in muscle excitability. His research involves both individual gene knock-out experiments and large-scale functional-genomics screening of mouse embryonic stem cells. He is also collaborating in various studies with several colleagues in the Department of Biomedical Sciences and elsewhere on campus.

His work on ion-channel signaling in muscle and non-muscle cells has been recognized with a Hildegard Doerenkam-Gerhard Zbinden International Research Prize and a Medal of Honor conferred by Tohoku University in Japan.

Kotlikoff met his wife, Carolyn McDaniel, in veterinary school. McDaniel established the Chestnut Hill Cat Clinic in Philadelphia and now consults one day a week for the Feline Health Center.
Building a Better Mouse House

With university president Hunter Rawlings there to cut the ribbon, the Cornell Core Transgenic Mouse Facility was dedicated inside the Veterinary Medical Center on March 26. Although housed within the College of Veterinary Medicine, the facility will be used by investigators throughout the university who work in the life sciences.

The dedication was held in conjunction with the meetings of the Advisory Council and Development Committee of the College of Veterinary Medicine. Also in attendance were representatives of the university's Genomics Task Force, campus administrators, and college faculty members. Following remarks by Dean Donald Smith, Rawlings, and Michael Kotlikoff, director of the Cornell Core Transgenic Mouse Facility, the guests were invited to tour the facilities.

The 12,000-square-foot mouse house is the first dedicated murine barrier facility on the Cornell campus. The space was refurbished at a cost to the university of 1.5 million dollars as a barrier facility - that is, one designed to keep contamination out. The mice residing within will be specially bred for transgenics research aimed at understanding the functional consequences of adding or deleting targeted gene sequences. The ultimate capacity of the facility is 20,000 mice, which will be housed in scrupulously clean and environmentally optimal surroundings. Funding for much of the equipment inside the facility was provided by the State of New York.

Beyond its value to researchers within the College of Veterinary Medicine, the new facility will also be a boon to programs in structural biology, engineering and nanotechnology, and chemistry and chemical biology, and will serve as a focus for the development of new interdisciplinary programs such as the cancer biology and nutritional genomics programs, which draw expertise from faculty across the great breadth of the life sciences on campus.

Although further transgenics facilities are planned for campus, Rawlings asserted that this first facility will remain the central one, and that it is “extremely well placed” given the veterinary college's strengths in research, teaching, and medicine. Rawlings characterized the Genomics Initiative as “the highest priority we have,” and continued, “This is a remarkable revolution that has deep significance in terms of the potential for research. The mouse model will be central to our efforts on campus as a whole. The genomics revolution brings together the physical and the biological sciences in ways we've never seen before. This facility will enable us to solve problems that haven't been able to be addressed. We want to translate all of this strength across the colleges.”

The core facilities are overseen by a university committee consisting of investigators, veterinarians, and animal care personnel representing five colleges: Veterinary Medicine, Agriculture and Life Sciences, Arts and Sciences, Human Ecology, and Engineering. Patrick Stover, an associate professor in the Division of Nutritional Sciences, is assistant director, and Ke-Yu Deng, an extension associate in the college, is director of transgenic services.
Thinking the Library Out of the Box

Cornell’s veterinary library – known formally as the Roswell P. Flower - Isidor I. and Sylvia M. Sprecher Library and Learning Resources Center – carries the distinction of being not only the oldest veterinary library in the United States but also one of the largest and finest in the world. Since its establishment in 1897 the library has amassed nearly 100,000 bound volumes; journal subscriptions now top 800, and the audiovisual collection contains 30,000 slide sets, videotapes, and audiotapes. This intellectual bounty is housed in an airy, sunlit expanse of chrome-accented blond wood, polished granite surfaces, oil portraits and animal bronzes, comfortable chairs, abundant ferns, and some curious botanical specimens culled from the poisonous-plant garden out behind James Law Auditorium. It is a very inviting place.

But while library director Erla Heyns takes great pride in the beautiful facilities and traditional services the library offers, she thinks the library should also be coming to the users – by offering remote access to electronic resources and services.

Heyns, who has been director of the Flower-Sprecher Veterinary Library for the past year and a half, has been encouraging her clientele to expect more of the library and to demand a higher level of service. While the library will always serve as a repository for materials, she sees no reason for a busy faculty member to make regular trips – especially to a down-campus library – to search for journal articles when the library can provide this service. “It really doesn’t matter if you come to the library physically when the library can come to your office, to your computer,” she says. Electronic databases, online catalogs,

“A satisfied user is someone who feels comfortable challenging the library to deliver new and creative services... I want them to see the library as a place where solutions are found, where new things happen. When our patrons embody this attitude, I will consider the library a success.”

Erla Heyns, PhD, director of the Flower-Sprecher Veterinary Library

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Thinking the Library
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and the increasing availability of electronic journals are changing the notion of a library as a physical place. Although the library continues to receive its journal subscriptions in printed form, it also receives as many of those journals as are available in an electronic version as well. University libraries buy multiple electronic journal subscriptions through publishing consortia and get a package rate for the entire campus. That means that the veterinary library can acquire electronic versions of journals it would never be able to afford as single subscriptions, and have access to journals that traditionally resided in chemistry, engineering, or physics libraries. "Many of our faculty have cross-disciplinary information requirements, and in turn library services must be broad enough to meet those needs," says Heyns.

Terry Kristensen, who recently joined the staff as assistant director for programs and services, has been working with Heyns to develop new programs to help members of the college community get a handle on their information needs. One way to receive information on the desktop is through a table-of-contents service. The user receives electronic tables of contents for requested journals as the library receives them. The client can scan the list and select articles to review or save. Library staff can also work with individuals to use commercially available programs for gathering and organizing information according to their personal specifications. With a click of the mouse, the user can select articles from a customized keyword search to store for future reference in a personalized database on his or her own computer.

For those who need information that is not available electronically, or who simply prefer to receive their information on paper, the library also offers a free inter-library loan service or a photocopy service for a fee. "What we're trying to do is ask: What's the full cycle in performing library research, and how can we help at every point in that cycle?" says Kristensen.

This service-oriented approach is based on a corporate model. "In industry, librarians do the research for the users and deliver the information to their desktops," says Heyns. The corporate notion of service is new to the campus, but Heyns is interested in testing this model for the veterinary library. She says, "Our library is unique in many ways. We serve a very specialized clientele – researchers, clinicians, veterinary students, and graduate students. Our fields of research and study are specialized, and I
believe that the library needs to be a partner in the discovery and educational process. In order to be an effective partner, we need to do a better job of communicating what we can do and deliver a higher level of service to our users. This allows the researchers and educators to focus on their areas of expertise, and together we become an effective team.”

Another innovation of the library is a project led by Kristensen to compile a set of digital videos for instruction in a range of animal-handling and clinical procedures. The library is developing this online resource in collaboration with the faculty who teach clinical rotations and the course Animals, Veterinarians, and Society. Once the effort is completed early in 2002, this collection will be available via the internet anywhere within the college. In time, students will be able to access the videos from their home computers. The first fully conceived digital video initiative within the Cornell library system, the concept garnered one of the highest ratings among proposals submitted to the Cornell University Library in the most recent internal grant-funding cycle. Kristensen hopes that this initiative will spark others throughout the library system.

Although the veterinary library exists primarily to serve the college community, it is also an important resource for private veterinary practitioners, pet owners, and others in the larger community. Recognizing that many others involved with animals desire access to the library's services, Kristensen, Heyns, senior veterinary librarian Susanne Whitaker, and the rest of the staff will also provide high-quality library services for a fee to anyone who requests them. The program, VetAccess, offers everything from photocopies of articles to professional library research on a given topic. A detailed schedule of fees and services is available by contacting the library.

For those who have the time, of course, there will always be one sure way to enjoy the library’s offerings for free. Walk in, take a book off the shelf, find a seat, and settle in. It’s a very nice place. You're welcome.

The Flower-Sprecher Veterinary Library Society

In the centennial year of the endowment of the Flower Library Fund at Cornell, the library is pleased to announce the establishment of the Flower-Sprecher Veterinary Library Society. The kick-off celebration for the society was held on March 9 in Boynton Beach, Florida. Library benefactors Isidor Sprecher, DVM ’39 and Sylvia Sprecher helped host the event.

The Flower-Sprecher Veterinary Library Society was conceived as a means for alumni and friends of the college to join together in supporting the veterinary library on an annual basis. In return, members at some giving levels receive the society’s distinctive bookmark series and access to discounted reference services. For further information about Library Society membership, please contact the director’s office at 607-253-3512 or at the address shown at left.

The original Flower Library Fund was established in May, 1901 with a very generous gift of $10,000 from Sarah M. Flower, the widow of former New York governor Roswell P. Flower. The faculty had determined that they would need $500 per year to maintain and enhance the collection started with Governor Flower's gift of $5,000 in 1897. Mrs. Flower’s gift provided the needed income and a fine and lasting tribute to her late husband’s noble intention to provide Cornell and New York State with a world-class veterinary library.
Oncology Service Expands

It has been one year since the oncology service of the Cornell University Hospital for Animals began operation. In the beginning the service was staffed only by Rodney Page, director of Cornell's Comparative Cancer Program, and nursing staff. Since then Page has assembled a top-notch staff; seen many hundreds of patients; traveled the country speaking to university alumni and other groups about cancer prevention, treatment, and research; developed collaborations and consortia with research colleagues within and beyond the college; and continued to lay plans for the future. With the medical oncology program well established, the work that remains is to develop a state-of-the-art radiation treatment facility.

The service now has three oncology nurses — licensed veterinary technicians Laura Barlow, Jeanne Brohard, and Deborah Watrous — and three board-certified cancer specialists: assistant professor Kenneth Rassnick, a medical oncologist; Margaret McEntee, an associate professor certified in both medical and radiation oncology; and Page, a professor specializing in medical oncology. Joining the group in July will be Cheryl Balkman, a postdoctoral associate in oncology who recently completed a residency in internal medicine at Cornell. Two board-certified surgeons, associate professors James Flanders and Jay Harvey, also work with the service. On July 1 the oncology service will welcome the first two trainees to its newly established residency programs in medical and radiation oncology.

Page estimates that the oncology service will see 1,000 patients with cancer this year. Many of them will be referred by their regular veterinarians, while others will be patients diagnosed with cancer after being seen by the general-surgery or internal-medicine service of the Cornell University Hospital for Animals. Most will be cats and dogs, although the oncology service sees an occasional ferret or other more exotic pet. The service uses a team approach to coordinate care as needed among surgeons, medical oncologists, diagnostic radiologists, radiation oncologists, or other professionals who have been trained in treating cancer.

In terms of space, the cancer service's facilities are without peer. Completed

Cancer, Pets, and People

To request a copy of Cancer, Pets, and People, the Comparative Cancer Program's informative brochure, call or write to the Office of Public Affairs at the address on the inside front cover of this newsletter. The cancer program also has a very informative website: www.vet.cornell.edu/cancer
in 1996, Cornell's veterinary hospital offers approximately 240,000 square feet of fully equipped medical, surgical, and diagnostic space. Of this, the oncology ward and treatment area occupy approximately 2,000 square feet, with holding space for approximately 50 patients. Excellent imaging facilities include a helical CT (computed tomography) scanner and nuclear medicine capability.

The most compelling goal during the coming months is to obtain a state-of-the-art linear accelerator for radiation therapy. A large radiation suite with a 500-square-foot vault was included in the construction of the hospital and stands nearly ready to house the needed equipment. Although it would have been possible to obtain a used accelerator with funds already available, Page and McEntee made the decision to hold those funds until they have raised enough additional money to purchase the newest and best equipment to be available in any veterinary teaching hospital in the country. Those fundraising efforts are currently a top college priority.

The reason to hold out is that radiation technology has advanced a great deal in the past few years. Newer accelerators come with optional capabilities that allow the information obtained in a CT scan to be downloaded to a specialized computer and used to create a "virtual patient". The radiation oncologist is then able to refine the angle, intensity, depth, and outline of the beam before touching the real patient. The ability to precisely control these factors greatly increases the effectiveness of the treatment and greatly reduces damage to surrounding healthy tissues. Page and McEntee intend to offer their animal patients radiation therapy that rivals that which is available in most human hospitals. To do so will take time and money, but they are confident that having the best possible radiation equipment is an opportunity worth waiting for.

Delivery of excellent cancer management services for referring veterinarians and pet owners is a very high priority of the Cornell Comparative Cancer Program. The clinicians of the oncology service have developed two forms that they hope will facilitate the transfer of essential patient information between referring veterinarians and Cornell.

The first of these is a questionnaire for the referring veterinarian to fill out when requesting a free telephone consultation. In addition to necessary contact information, this form requests information relating to diagnosis, pertinent cancer history, tests performed and their results, drug treatment history, and other pertinent medical history. It also provides space for the referring veterinarian to indicate questions that he or she would specifically like addressed.

Having this information in hand before placing the phone call enables our oncologists to give thought to follow-up questions and focus on next steps rather than on medical history. In this way both the referring veterinarian and the Cornell clinician get the greatest possible value from the discussion, which in turn benefits the patient and the pet owner. These consultation forms are also used as teaching tools for professional students on the clinical oncology rotation.

Once a patient is referred to Cornell for treatment, the referring veterinarian will receive a faxed referral form requesting a referral letter, certain test results, and radiographs, which are later returned. Prompt receipt of this information prevents treatment delays and the expense of test duplication.

All information that the referring veterinarian provides is kept on file for future reference. The full cooperation of referring veterinarians in providing requested information will ensure the best possible communication and patient care—goals we all share.
Key to the success of the Comparative Cancer Program is the acquisition of a linear accelerator. The college must raise $2,000,000 to cover the cost of the accelerator itself and of associated equipment and further shielding for the radiation suite. Additional equipment includes the computer system used in "virtual patient" treatment planning and a multileaf collimator, a device that allows the radiation specialist to sculpt the beam of electrons for extremely precise targeting of irregularly shaped areas of tumor infiltration. To obtain an image of a tumor that is detailed enough to use for such precise treatment planning, the radiation therapists also need magnetic resonance imaging (MRI) capability.

In order to acquire the linear accelerator and related equipment, the college will be seeking gifts from individuals, foundations, and corporations. Two initial gifts totaling $100,000 have already been received—one from a long-time contributor who gave in honor of her veterinarian, Brian Rind, DVM '65, and a bequest inspired by a donor's great love of companion animals and appreciation for Cornell's role in veterinary medicine. These generous gifts are only a start; the remainder of the funding will be needed by October 2002 in order to capture a pending corporate challenge grant of $500,000. Once the linear accelerator is in place, revenues from its use will support its maintenance and ultimate replacement. The unit is expected to last ten or more years.

Radiation is essential for the treatment of tumors that are poor candidates for surgery due to either their size or their location in the body. Unlike chemotherapy, which is administered systemically, state-of-the-art radiation treatment can be focused precisely to destroy cancerous tissue while avoiding damage to surrounding, healthy tissues.

The linear accelerator that the college seeks to acquire is new technology that would give Cornell the ability to redefine radiation oncology as it is used and understood today. The College of Veterinary Medicine seeks your help in achieving this important goal. Please contact Peg Hendricks, assistant dean of public affairs, by calling 607-253-3744 or by writing to the address on the inside front cover of this newsletter.

American Cancer Society Awards Grant

The American Cancer Society has awarded a three-year, $180,000 grant to the College of Veterinary Medicine. Donald Distasio, the chief executive officer for the American Cancer Society of New York and New Jersey, presented the grant to Douglas McGregor, associate dean for research, at a reception on May 29. The college research office will use the funds to administer a competitive grants program designed to support promising new cancer studies by junior faculty researchers throughout the university.
Gene Therapy Restores Vision in Blind Dogs

Researchers at Cornell have achieved the first successful gene therapy for blindness in an animal larger than a mouse. The experimental breakthrough, reported in the May, 2001 issue of Nature Genetics, restored sight in three young dogs born with an inherited degenerative disease of the retina. The Cornell scientists, Gregory Acland, Gustavo Aguirre, Jharna Ray, Qi Zhang, and Susan Pearce-Kelling, are all members of the Baker Institute for Animal Health in the College of Veterinary Medicine. They collaborated on the project with University of Pennsylvania researchers Tomas Aleman, Artur Cideciyan, Vibha Anand, Yong Zeng, Albert Maguire, Samuel Jacobson, and Jean Bennett and with William Hauswirth of the University of Florida.

The study dogs were bred by Cornell researchers to inherit congenital stationary night blindness (csnb), a disease that occurs naturally in a single breed of dog, the briard. The canine disorder is characterized by night blindness and by varying degrees of day blindness. Humans can inherit a related disease, Leber congenital amaurosis, which causes near-total blindness to develop in infancy.

"We have shown that gene therapy can restore vision in dogs with one of the most clinically severe retinal degenerations," says Acland, a veterinary ophthalmologist and senior research associate. "Many safety and efficacy trials must be performed before we can begin clinical trials, but this method could also correct defects in humans with RPE65 mutations." Adds Aguirre, the Caspary Professor of Ophthalmology, "This is a perfect example of how research in animals helps both the animal – in this case the dog – and the human patient."

Both the canine disease and some human cases result from mutations in RPE65, a gene that encodes a protein involved in vitamin A metabolism in the retinal pigment epithelium, or RPE. The RPE is a single-cell layer that supports the visual cells of the retina – the rods and cones – by providing nourishment and removing waste products. Mutations in the RPE65 gene interfere with these functions.

The vector used to deliver normal copies of the RPE65 gene to the diseased retinal cells, a recombinant adeno-associated virus, was developed by Hauswirth of the University of Florida's Powell Gene Therapy Center using clones provided by Aguirre and Acland. The procedure itself, which involved injecting the normal gene copies into the subretinal space of the dogs' eyes, was performed by ophthalmologists at the University of Pennsylvania. The dogs were three months old at the time of the procedure and had been blind since birth.

Three months after the administration of the gene therapy, the dogs not only demonstrated restoration of electrical waveforms by electroretinogram but successfully negotiated an obstacle continued on page 23
Donald Smith
Reappointed as Dean

Cornell University Provost Biddy Martin announced on June 7 the appointment of Donald F. Smith to a second five-year term as dean of the College of Veterinary Medicine, effective July 1, 2002.

Smith became the ninth dean of the college in July, 1997. He has led the college through reorganization and significant growth, building upon a legacy in veterinary medicine and the related biomedical sciences. "The dynamic interactions that unite biology and the biomedical sciences with applications in medicine mandate the future direction of the College of Veterinary Medicine," Smith said.

In his first term as dean, Smith has encouraged new initiatives that foster collaboration in basic research and clinical practice. He worked with the faculty to consolidate academic departments and rename them to better reflect their activities; the five departments are now Biomedical Sciences, Clinical Sciences, Microbiology and Immunology, Molecular Medicine, and Population Medicine and Diagnostic Sciences. Smith has appointed three department chairmen: Richard Hackett in Clinical Sciences, Michael Kotlikoff in Biomedical Sciences, and David Russell in Microbiology and Immunology.

To complement the already existing position of associate dean for research and graduate education, he created the positions of associate dean for clinical programs and professional service and assistant dean for learning and instruction, thereby aligning college leadership with the missions of education, research, and public service. He also created an assistant deanship in hospital operations to strengthen efficiency and customer service in the Cornell University Hospital for Animals. In order to integrate their dual missions of academic and clinical service, he consolidated the reporting structure for the clinical faculty under the chairman of Clinical Sciences.

Smith guided the establishment of the Cornell Comparative Cancer Program, which brought the recruitment of Rodney Page as director. The program is one of the first nationally to emphasize translational biology – active collaborations among biomedical researchers and veterinary clinicians with the goal of developing therapies to improve the health of cancer patients, animal and human.

Smith recently oversaw the completion of renovations to provide an additional 40,000 square feet of clinical instruction and research space. The new facility includes a surgical suite with eight workstations for teaching general surgery, an arena for demonstrating and diagnosing equine problems, a suite for teaching large-animal theriogenology, laboratories and offices for clinical faculty, and space for the ambulatory and production medicine service.

Under Smith's leadership the college celebrated the turn of the millennium with a variety of activities designed to recognize the contributions of all faculty and staff present at that time and to foster a greater sense of community within the college. One notable outcome of the effort was the publication of Beyond Traditional Boundaries, a boxed collection of essays, photographs, and commissioned artwork representing the great diversity of activity at the college. The portfolio-book won gold awards in regional and national competitions sponsored by the Council for the Advancement and Support of Education.

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The Art of a Balanced Life

Sherry Holmes owed Bob Lynk a favor. After all, he was the one who had introduced her to her future husband, MacDonald Holmes ‘61, DVM ‘61, when he and Lynk were classmates in veterinary school at Cornell. So as Robert Lynk ’54, DVM ’61 was looking ahead to retirement from the Delmar Animal Hospital in Delmar, New York, Sherry Holmes introduced him to her other great love, watercolor painting. For Lynk, it was the start of a beautiful relationship.

Those who visited the Hagan Room in Schurman Hall between mid-May and mid-June this year saw just how beautiful a relationship has flourished in the mere seven years since Lynk took up painting. Drawing his inspiration from the rural vistas of Albany County, Lynk has produced and framed 240 paintings while studying with Holmes and a number of other artists, works that now sell for hundreds of dollars. Since retiring in 1997 he has been working at his art nearly full-time – at least as others might define the term. He also finds time for major involvements in professional veterinary medicine, alumni affairs, sports, and church activities, among other things.

As a practitioner, Lynk recognized early in his career that evening and Saturday appointments and emergencies had the potential to consume his life. He recalls a turning point when he heard an older veterinarian speak about how he had devoted 20 years to his practice, and then his wife suddenly died. The older veterinarian said that he had never even gotten to know her.

Shortly thereafter, in 1969, Lynk and his partner, practice founder Thurman C. Vaughn, DVM ‘44, canceled evening and Saturday appointments and stopped boarding pets. Two years after Vaughn’s retirement in 1984, to promote the family-oriented structure of the practice, Lynk and his new partner, Stuart Lyman, DVM ’73, joined a group of 25 neighboring veterinarians to establish the Capital District Animal Emergency Clinic, which provides full emergency coverage on nights, weekends, and holidays. Secure in the knowledge that his patients could receive quality after-hours care in his absence, Lynk was freed to increase his involvement in family and community life. He believes he is the only member of his class to have spent his entire career in the same practice. “One of the best decisions I ever made was to stay put rather than establish my own solo practice,” he says.

Lynk is still treasurer of the Capital District Animal Emergency Clinic and he still runs the crematorium owned by the Delmar Animal Hospital. He is co-president of the Bethlehem Art Association and a member of the Albany Art Group. He serves on the board of directors of the Cornell Club of the Greater Capital District and is in his third term on the Cornell University Council. He has been a member of the college’s advisory council and development committee and chaired the Annual Fund drive. He has served as president of the Capital District Veterinary Society, which named him Veterinarian of the Year in 1997. Last year he received the Daniel Salmon Award from the college’s alumni association. He has been an avid bowler since 1961 and has served for continued on page 23
David Robertshaw Tapped for Post at Weill Cornell in Qatar

David Robertshaw, a professor of physiology in the college since 1987, has been named associate dean for premedical education of the Weill Cornell Medical College in Qatar. Robertshaw began his new duties with the signing of the agreement between Cornell University and the Qatar Foundation for Education, Science, and Community Development on April 9 that officially established the new branch of the medical college.

Robertshaw, who chaired the Department of Physiology for ten years before its incorporation into the recently formed Department of Biomedical Sciences, has extensive administrative experience. He previously chaired the physiology departments of the University of Nairobi, Kenya, Indiana University School of Medicine, and Colorado State University, where he was hired by then-dean Robert Phemister. When Phemister accepted the deanship of Cornell's College of Veterinary Medicine, he again recruited Robertshaw.

Robertshaw is the one doing the recruiting now, as he builds a faculty to teach the two-year premedical curriculum. Even in this capacity he is on familiar ground, however, having helped establish the University of Nairobi's college of veterinary medicine in 1969. He also helped train new veterinary faculty in Morocco as part of an institutional development program run through the University of Minnesota. Until this past April he was director of international programs for Cornell's College of Veterinary Medicine.

According to Robertshaw, it was neither his administrative experience nor his three stints in equatorial Africa — totalling nine years — that qualified him for his new post, but his interest in premedical education. He chairs Cornell University's Health Careers Program Advisory Board and was

"I truly believe that the future of higher education will be global. In that sense, we are pioneers."

David Robertshaw, DVM, PhD

David Robertshaw

VETERINARY MEDICINE
asked to serve on the planning team that developed the proposal to the Qatar Foundation for establishing a Cornell medical branch in Qatar.

"This project is the sort of thing I like to do because I truly believe that the future of higher education will be global," he says. "In that sense, we are pioneers."

Robertshaw's research expertise should also stand him in good stead in his move to the sands of Arabia. He has spent much of his career studying - of all things - adaptations of animals to harsh environments, particularly the desert environment. After graduating from Glasgow University with a degree in veterinary medicine, he began this work as a PhD student of Sir James Black, who later shared a Nobel Prize for the development of histamine and beta blockers, two of the most widely prescribed drugs in use today. The British government sent Robertshaw to Kenya in 1960 to study the native oxen for clues to how well domestic animals might fare in such a changed environment. "Back then we didn't know how animals lost heat to regulate their body temperature," he recalls. "It was very fundamental stuff - we found out that they did it by sweating. We had thought that only humans could sweat."

During and after subsequent sojourns to Africa as a Rockefeller Foundation Fellow and as chairman of physiology at Nairobi, Robertshaw studied thermoregulation and a variety of other physiological phenomena in the donkey and horse, Old World primates, man, and the black Bedouin goat, wildebeest, zebu, eland, and hartebeest. But his favorite among the animals he has studied?

"Camels are probably the most interesting to study," he muses, "defining in quantitative terms their ability to survive and thrive with intermittent watering. Some people call it the 'physiology of the impossible' - they can do it, but we can't, so it seems as though it should be impossible."

One question Robertshaw worked out in his research with camels was the mechanism by which they regulate their brain temperature. "Blood draining from the nasal region goes into the brain to cool it," he explains. "It works the same way that panting does - by the evaporation of water vapor in the nasal passage when they breathe." He also found that brain temperature rises alarmingly rapidly when camels take in water - for the simple reason that they stop breathing while they drink.

Robertshaw has something of a collection of bookshelf-sized camels, remembrances given to him by former students and colleagues. He pulls down a favorite, a wooden one carved in perfect detail, and offers it for examination. "They are absolutely beautiful animals," he says fondly. "They have these very long eyelashes... Their upper lips are divided into two parts that they can move independently, almost like fingers, so that they can maneuver around thorns when they are trying to get at the leaves in a tree... Their feet have these thick, soft pads underneath, so that they spread when they stand on them... They're really very nice animals."

Robertshaw will continue to spend part of his time in Ithaca until the end of December. Classes for premedical students will begin in the fall of 2002, with the first medical program class entering in 2004.

**Qatar Fast-forwards to Democracy**

Weill Cornell Medical College will be the first co-educational institution of higher learning in Qatar, a 4,400-square-mile peninsula that juts into the Persian Gulf along the eastern coastline of Saudi Arabia. From this tiny toehold, Qatar has dominion over the world's third-largest reserve of natural gas, estimated to be sufficient to heat every home in the United States for the next 60 years. The emirate's ruler, Sheikh Hamad bin Khalifa Al-Thani, has moved swiftly to institute major democratic reforms since taking over leadership of the government in 1995. Censorship has been abolished, Qatar has the least restricted cable television station in the Arab world, and women have the right to vote and hold office. Two years ago Sheikh Hamad presided over elections to form a municipal council. He has appointed a commission to draft a constitution, due in 2002, calling for a democratically elected parliament.

The medical college is part of a larger plan to develop a model "education city" in Qatar's capital, Doha. The effort has been spearheaded by Sheikha Mouza bint Nasser Al-Misnad, wife of the emir and chairwoman of the Qatar Foundation. Qataris will have priority in admission to the medical college, assuming that they meet Cornell's admissions standards, but all nationalities, including Israelis, will be welcome.

Some of the information about Qatar came from an article in the November 20, 2000 issue of the New Yorker magazine: "Democracy by Decree: Can one man propel a country into the future?" by Mary Anne Weaver.
A Veterinary School's Veterinarian, Fred Quimby, Retires

As much as anyone with feelings wishes it were not so, the progress of medical and biological research depends on the use of laboratory animals. Although most people understand its unavoidable necessity, others oppose animal use in research and teaching. For an extreme few, this opposition has taken the form of destructive and even violent acts against facilities and people engaged in animal-based research.

In the face of controversy and personal risk it takes a very special dedication to science and animal welfare to shoulder the responsibility for ensuring the optimum care and comfort of the animals housed at a research university the size of Cornell. For more than 20 years, Fred Quimby, a veterinarian and a professor of pathology in the Department of Biomedical Sciences, has been the one who took that responsibility. Quimby has now retired from Cornell to head the mouse transgenics program at Rockefeller University.

"Cornell owes Fred a great debt for all he has done for animal care in the broadest sense of the word," said Jack Lowe on the day before his own retirement this spring as the university's executive vice-provost for research. "Fred cares deeply about animals and has a high degree of integrity and work ethic. He worked extremely hard to make sure that the university had a good, sound program that was fully compliant with all regulations."

Thanks to Quimby's sustained efforts, Cornell University now has the largest accredited university-based animal resource facility in the United States. In the Ithaca area alone the university's laboratory animal complex comprises more than 140 separate facilities, many of them agricultural. "Cornell's facilities are unusual compared to those of most other institutions, which house primarily rodents and other small animals," says Quimby. "Cornell has enormous holdings of cattle, sheep, and horses. The veterinary and agriculture schools have about 1500 breeding ewes each. That's a lot of large animals that are spread out over a lot of space." According to Quimby, Cornell employs more than 250 people to care for its research animals.

Quimby came to Cornell in 1979 as director of the university's Center for Research Animal Resources (CRAR) and the College of Veterinary Medicine's own Laboratory Animal Services (LAS). At the same time he accepted joint appointments as an associate professor in the medical and veterinary colleges. Quimby's expertise in laboratory animal medicine was so much in demand that for three years he divided his time between Cornell's New York and Ithaca campuses before being able to focus on building an accredited program on the Ithaca campus. Although based in Ithaca from 1982 on, he remained a member of the medical college faculty until 1993 and served as a member of that school's graduate faculty until this year.

The university had no formal animal-care program when Quimby was recruited. (The veterinary college, however, did have a program. It was
run by Clyde Boyer, a professor who had originally worked in avian medicine and had retrained as a laboratory-animal veterinarian.) The work of gaining accreditation – which Quimby stresses is a completely voluntary undertaking – was a huge effort that took five years to accomplish.

AAALAC, the national accrediting association, meticulously examines every minute detail that relates to the breeding, maintenance, monitoring, and use of laboratory animals. Inspectors also take a hard look at matters that go well beyond the federal rules and regulations governing laboratory animal care. According to Quimby, these include even the institution’s undergraduate and graduate educational programs in addition to every other rule or regulation that has an impact on the organization, such as Occupational Safety and Health Administration regulations, Environmental Protection Agency standards, and state and local requirements. This is all done to ensure the greatest possible health and comfort of every animal. This grueling process is repeated once every two-and-a-half to three years.

In addition to his considerable responsibilities directing CRAR and LAS, Quimby also carried teaching responsibilities at the undergraduate, graduate, and professional levels and maintained a significant research program in environmental toxicology – including studies that brought to light the dire consequences to dogs and people of PCB contamination on the St. Regis Indian Reservation in upstate New York. These and other investigations resulted in the publication of over 100 peer-reviewed papers, four books, and a Johnson & Johnson Focused Giving Award for advances on the pathogenesis of toxic shock syndrome. He also served as chairman on two expert committees of the National Research Council and as editor of two professional journals. As if that were not enough, he also found time to support initiatives to bring high-school students and teachers to Cornell for advanced training in biology.

The program for teachers, the Cornell Institute for Biology Teachers (CIBT), brings secondary-school teachers to campus in the summer for a three-week residential institute where they receive instruction in molecular biology and genetics, computer training, and a set of technology-intensive labs to take back to their own schools. The teachers then return to Cornell three times during the school year for lectures and, during the following summer, for a second workshop. According to Rita Calvo, CIBT’s director, Quimby co-wrote a successful grant proposal for major funding from the National Science Foundation. He also helped develop the curriculum and lectures the group every summer.

Quimby’s pet project, however, has been the New Visions program for high-school seniors. He developed the original concept after discussions with friend Charles Gruman, principal of the regional branch of the Board of Cooperative Educational Services (BOCES) and formed a faculty steering committee to elaborate and implement the idea using funds from his own laboratory account. He has worked ever since to garner funding and line up faculty and project mentors. Now in its fourth year of operation with BOCES teacher Thea Martin, New Visions offers exceptional biology students from schools in Tompkins, Seneca, and Tioga Counties an opportunity to spend their senior year at the College of Veterinary Medicine. Here they visit laboratories, attend clinical rotations, engage in research, and receive instruction from faculty guest-lecturers representing not only the college but all parts of the Division of Biological Sciences. “Fred has such a wide range of interests and connections,” says Martin. “He has opened up opportunities for us all over campus – we’ve been to Entomology, Space Sciences, the Laboratory of Ornithology… It’s been wonderful to have the help of someone who’s that engaged in the educational process, that interested in creating great intellectual opportunities, great experiences, for my students.”

Of course, one purpose Quimby saw for both CIBT and the New Visions programs was to expose teachers and students to the reality of the laboratory-animal experience at Cornell. He has lectured every year on the subject to both groups, and the New Visions students spend a rotation in CRAR. Martin has seen how this exposure changes her students’ misconceptions about the treatment given to laboratory animals. “No one cares more about animals than veterinarians do,” she says. “No one has their interests more at heart. It’s their job to minimize pain and suffering and to ensure the highest quality of life for animals. That exposure is really illuminating to my students, to see the extraordinary degree of care they take with animals at Cornell.”

For that, and so much more, we can all thank Fred Quimby.
As a great many pet owners and veterinarians can attest, the Cornell Feline Health Center is a wonderful place to turn for the latest feline health care information. In addition to producing informational publications and offering a for-fee consultation and diagnostic service, however, the Feline Health Center is also committed to furthering research designed to address practical clinical needs of cats.

“Our mission is very clear,” says James Richards, DVM, director of the Feline Health Center. “We are here to improve the health and well-being of cats everywhere. That’s our sole purpose.”

Under the leadership of founding director Fred W. Scott, a veterinarian and virology professor who maintained an active research program of his own, the center made great strides in feline infectious-disease research. “Even from its inception in the mid-1970s, however, the center has provided financial support to other types of feline health studies here at the college, not just those involving infectious diseases,” says Richards. “The difference now is that we distribute funds through a formal, competitive grants program. We have seen an increase in the number of grant applications submitted since we started the program four years ago. Each year we

Three studies were selected for funding through the Cornell Feline Health Center Research Grants competition for 2001.

COLIN PARRISH and RODNEY PAGE

“The feline transferrin receptor – characterization and development of diagnostic reagents.”

Transferrin is a protein that binds iron circulating in the bloodstream. The iron-loaded transferrin is bound by cell-surface transferrin receptors and taken into the cell. An increase in the number of transferrin receptors either in the plasma or on the surface of cells may occur in a variety of circumstances. The presence of circulating transferrin receptor fragments can signal increased development of red blood cells. Under other circumstances the transferrin receptor levels on cells may be used as a marker of rapid cell proliferation associated with malignant tumor growth.

The goal of the project is to develop specific antibody reagents against the transferrin receptor that can be used to detect free transferrin receptor protein in the serum of cats—a marker for increased red blood cell production—as well as to detect the high levels of transferrin receptor expressed on the surface of and within feline tumor cells. These increased levels of receptor expression can be used to identify and stage cells of a variety of different tumors or to detect tumor cells in the circulation or in biopsies.
hope to encourage more faculty members with a new project in mind to think about how they can tailor their studies to bring direct benefit to cats."

Faculty members apply for funds by submitting a formal research proposal to the Feline Health Center. The College Research Council then reviews, scores, and ranks the proposals according to scientific merit. Richards makes the final determination based largely on those rankings. The other essential criterion - need we say it? - is the value of the project to cats.

The amount of grant funding available varies from year to year, depending on the center's success in raising funds from its 5,000 or so members. But it is definitely worth a researcher's attention – this year Richards awarded $60,000 of the $75,000 that he had in the kitty. The rest will carry over to next year, when Richards expects to find a greater number of worthy projects to fund.

In addition to funding research and equipment purchases within the college, the Feline Health Center has contributed roughly $40,000 to the Vaccine-Associated Feline Sarcoma Task Force, a group organized by the American Veterinary Medical Association, the American Animal Hospital Association, the Veterinary Cancer Society, and the American Association of Feline Practitioners (AAFP). Richards is a member of the task force and chairs its education and communication sub-group. As the organization's spokesman he makes the occasional network morning show appearance and will soon be making a series of public service announcements. An officer in the AAFP, Richards has served on many expert panels, including several providing guidance on feline vaccine usage and senior cat care. For its part, the AAFP provides assistance in the preparation of informational brochures produced and distributed by the Feline Health Center. Such a partnership is unusual in academe, but Richards has only one goal – to do whatever serves the best interests of cats and their caregivers.

SHARON CENTER and FRANCIS KALLFELZ

"Validation of bioelectrical impedance analysis of body condition and daily energy utilization in healthy and sick cats."

Body condition – the ratio of lean to fat body mass – has been highly problematic to determine accurately in canine or feline clinical patients. Some of the measurement methods used in humans have various drawbacks, such as expense, inaccuracy, or added anesthesia risk, that make them impractical for use in animals. Being able to determine body condition permits expression of total energy expenditure on the basis of non-fat (lean) body mass, a necessary first step in studying changes in body condition that accompany normal and abnormal physiological processes. The ability to follow relative changes in body composition will improve the accuracy of assessment of an animal's nutritional status in disease states and in response to therapeutic interventions.

Bioelectrical impedance spectrometry uses multiple electrical frequencies to distinguish the percentage of a patient's total body water that is within cells from that which accumulates in non-cellular compartments. Intracellular water is associated with lean body mass, the tissues responsible for the majority of energy utilization. In cats, whose ideal weights range from 6.5 pounds to 20 pounds depending on skeletal frame size, the ratio of lean body mass to total weight would yield a far more accurate assessment of body condition than would a comparison of actual weight to an estimated ideal weight or body condition scoring. Use of bioelectrical impedance combined with other methods of determining extracellular water space also will provide previously unavailable, clinically useful information important in determining appropriate drug-dose administration.

KENNETH SIMPSON

"Investigation of the metabolic consequences of subnormal serum cobalamin concentrations in cats with gastrointestinal disease."

Cobalamin, a cobalt-containing compound common to all members of the vitamin B12 group, is essential to nutrient metabolism and nucleotide synthesis. Hypocobalaminemia, or subnormal concentration of cobalamin in the blood, is a condition seen frequently in cats with gastrointestinal disease. The study will prospectively evaluate the prevalence of hypocobalaminemia and cobalamin deficiency in cats with gastrointestinal disease. The study will prospectively evaluate the prevalence of hypocobalaminemia and cobalamin deficiency in cats with gastrointestinal disease, define the metabolic consequences of the condition, establish the cobalamin requirements of cats, and examine the effectiveness of treating a deficiency with supplemental cobalamin.
New Faculty

Michelle Bailey, DVM begins her duties July 1 as associate vice-provost for research animal resources for Cornell University and director of Laboratory Animal Services for the College of Veterinary Medicine. After graduating from Ontario Veterinary College at the University of Guelph, Bailey worked for two years as a research associate in the Department of Pediatrics of McMaster University, then as clinical veterinarian and administrator of animal services for Connaught Laboratories in Toronto. Since 1991 she has been director of animal care and veterinary services for the University of Western Ontario. Bailey is a diplomate of the American College of Laboratory Animal Medicine and a member of the Royal College of Veterinary Surgeons.

Teresa Gunn, PhD, becomes an assistant professor in the Department of Biomedical Sciences in July. Since 1996 she has performed postdoctoral studies of the mouse mahogany gene, a mutant coat-color gene, at Stanford University as an American Heart Association Postdoctoral Fellow. Her doctoral research at the University of British Columbia concerned genetic and developmental studies of abnormal neural tube closure in genetically engineered mice.

David Lin, PhD, assistant professor of neurobiology in the Department of Biomedical Sciences, comes to Cornell in July from the University of California, Berkeley, where he completed doctoral studies on the development of the neuromuscular junction and a postdoctoral fellowship studying connectivity in the olfactory system. The goal of his research is to understand the mechanisms that underlie pathfinding and target recognition in the nervous system: how the growth cone of a neuron navigates through its environment to find its synaptic target.

Hélène Marquis, DMV, MSc, PhD joins the Department of Microbiology and Immunology in July as an assistant professor of bacteriology. After completing her veterinary degree at the University of Montreal, Marquis spent six years in private practice before returning to Montreal for a master’s degree in veterinary microbiology. She then earned a PhD in veterinary microbiology at Texas A&M University, where she remained briefly as a postdoctoral associate before becoming a postdoctoral fellow at the University of Pennsylvania. For the past four years she has been an assistant professor in the Department of Microbiology at the University of Colorado Health Sciences Center. Marquis’s current research concerns the mechanisms of inter- and intracellular infection with Listeria monocytogenes.

Bradley Njaa, DVM, MVSc recently joined the Department of Biomedical Sciences as an assistant professor of pathology. A graduate of the Western College of Veterinary Medicine of the University of Saskatchewan, Njaa worked for five years in mixed practice before returning to Western College for graduate school. He also completed residency training in diagnostic anatomical and clinical pathology at Western College and is a diplomate of the American College of Veterinary Pathology. Njaa spent the past two years as a diagnostic pathologist at Purdue University’s Animal Disease Diagnostic Laboratory.

Marci Scidmore, MA, PhD is an assistant professor in the Department of Microbiology and Immunology. Scidmore earned advanced degrees in molecular biology at Princeton University and was a senior staff fellow at Rocky Mountain Laboratories, a unit of the National Institute of Allergy and Infectious Diseases, in Hamilton, Montana prior to coming to Cornell. She specializes in the study of host-pathogen interactions in Chlamydia trachomatis infection.
James Law Remembered

Eighty years after the death of James Law, an epilogue has been added to the founding dean's vast legacy to veterinary medicine. The unexpected postscript, a monetary gift large enough to fund a major endowment at the college, was written by Julia Frances Law in her will in 1963. Miss Law, the youngest of James and Elizabeth Crichton Law's four children, was born in Ithaca in 1874. She lived 94 years and never married.

As the last surviving child of James and Elizabeth Law, Julia Law provided in her will for the establishment of an endowed fund in her father's name at the college. The estate was placed in an outside trust for her niece, Elizabeth Law Foord Dryden. On Dryden's death in July, 2000 the $100,000 remainder of the trust came to Cornell as the James Law Endowment for Veterinary Research.

"Of all the names in veterinary medicine in the country, James Law's is the most revered," commented Donald Smith, dean of the College of Veterinary Medicine, upon learning of the gift devised so many years before. Reflecting on the historical significance of the bequest, he added, "We have a monetary gift that appears to originate from the founder of veterinary medicine in the United States."

Tompkins County Surrogate Court records appear to bear him out. James Law left his entire estate to his wife in 1921; when she died intestate four years later, the estate passed in equal shares to her three surviving children, daughters Julia, Grace, and Cecilia. Of the three, only Grace married; Elizabeth Foord Dryden was her only child and the elder Laws' only grandchild.

Dean Smith announced at this year's hooding ceremony on May 25 that Bruce Widger, DVM '51 and his wife, Mary Widger, thoughtfully made a gift to supplement the James Law endowment. In addition, a portion of an unrestricted bequest recently received from the estate of John V. Boland, Jr. has also been allocated to the fund. Others wishing to honor the roots of veterinary medicine in this country are invited to add their gifts to the James Law Endowment for Veterinary Research.

John Saidla, DVM, who last summer left his position as director of continuing education at the college to become director of the veterinary teaching hospital at his alma mater, Auburn University, was honored during March Conference with a memento of his twelve years as an educator and clinician at Cornell. Katherine Edmondson, assistant dean for learning and instruction, presented Saidla with a framed photograph bearing the inscription, "Honored and recognized as outstanding and beloved teacher, innovator, mentor, and friend by the students, faculty, and staff of the College of Veterinary Medicine 1988-2000."
Oncologist Honors Parents with Endowment

Jane M. Turrel, DVM, MS, a veterinary oncologist and owner of Veterinary Oncology Specialties, a referral clinic in Pacifica, California, has made a gift of $100,000 to establish the John and Eloise Turrel Endowment for Veterinary Oncology at the college. The Turrel Endowment will support the development and operation of the Comparative Cancer Program, including clinical services, research, and public outreach initiatives.

An alumna of the University of Illinois, Turrel chose to endow a fund at the college as a means to honor her parents, both 1943 graduates of the University of California, Davis. She is a diplomate of both the American College of Veterinary Internal Medicine and the American College of Veterinary Radiology and is certified in the sub-specialties of oncology and radiation oncology. She is nationally recognized in her field and has published extensively in peer-reviewed journals and as a textbook contributor.

Income from the Turrel Endowment will be used initially to establish a visiting lecture series in comparative oncology. The purpose of the program will be to increase awareness throughout the university community of the value of a comparative approach to cancer control, and to encourage collaboration with other programs around the country.

Jane Turrel has been invited to deliver several lectures during this summer's 13th annual Fred Scott Feline Symposium. The topics she will address are feline hyperthyroidism, feline skin tumors, and the management of vaccination-induced sarcomas. The three-day conference begins Friday, July 27.

Biomedical Sciences

continued from page 3

make the residency training program the most competitive in the country. One key to achieving this distinction is to offer training in the most sophisticated techniques of genomics, such as tissue genotyping, laser microdissection, and the pathology of transgenic mice.

Alexander Nikitin, another recent recruit to the department, is nationally recognized for his studies in mice of mutations in cancer-suppressor genes that give rise to mammary and other cancers. In other disciplines within the department, the emphasis is also on recruiting experts in genomics. Teresa Gunn, a geneticist from Stanford, has found that a gene for coat color in mice is also involved in regulating weight gain. Hong-bo Xin, an assistant professor who collaborates with Kotlikoff in studies of the calcium release complex in muscles, is adept at gene knock-out techniques that to date can only be performed successfully in the mouse. David Lin, an expert in developmental neurobiology from Berkeley with a joint appointment in the College of Arts and Sciences, studies how olfactory neurons find their targets back in the brain. One of Lin’s first goals when he arrives in July will be to set up a genomic array facility in the Veterinary Research Tower that will be run by robotics.

Clearly, Kotlikoff and the faculty — both established and new — of the Department of Biomedical Sciences are centrally involved in the mammalian genomics revolution at Cornell. Although the idea of addressing problems of veterinary importance by manipulating mouse embryonic stem cells may seem off-track to some, genomics research offers the broadest route to breakthroughs that will advance the practice of clinical veterinary medicine in the twenty-first century. Mouse studies are yielding findings of widespread potential applicability in areas such as the determination of genes that cause or confer resistance to disease; determination of disease pathogenesis and characterization based on changes in gene expression at various stages of a disease; and drug discovery.

“We have the opportunity to make distinctive contributions that capitalize on campus strengths to use basic biology in ways that are very important for this college,” says Kotlikoff.

“For the mammalian genomics program to be successful, it must lead to applications that advance veterinary medicine. At the same time, it is vital for the profession for our veterinary students, residents, and junior faculty to be fully engaged in the revolutionary advances that are currently transforming medicine.”
course in dim light. “It's amazing to see these blind dogs following you with their eyes, getting up and exploring a room for the first time – it's hard to believe,” says Albert Maguire, director of the retina service at Penn's Scheie Eye Institute. “It's very hard not to be excited about these results – this is what we have been hoping for for a very long time.”

Earlier studies of retinal gene therapy done in mice had shown success in slowing retinal degeneration, as measured by electrical responses to light stimuli or microscopic evaluation of retinal tissue. The RPE65 study is the first, however, to demonstrate that the brain is able to interpret the newly restored visual impulses from the retina. The principle proven in the present study has important implications for future studies as well. Says Aguirre, “As medical advances are made both in human and veterinary medicine, treatments such as gene therapy, which are now done on an experimental basis in both animals and man, will likely become accepted treatment modalities in animal species as well as in humans.”

Fortunately, the treatment will probably not be needed to cure congenital stationary night blindness in dogs outside the laboratory. A mutation-based diagnostic test developed by Aguirre and Acland in 1998 has taken the guesswork out of selective breeding to eliminate the genetic flaw from briards. “Csnb is well on its way to becoming a non-disease in dogs,” says Acland.

In addition to his administrative duties as dean, Smith has remained active in teaching. He has contact with nearly every student through his teaching of Management of Fluid and Electrolyte Disorders, a popular course he designed in 1995. He also shares tutoring responsibilities every year for the course The Animal Body.

In his second term Smith plans to continue the emphasis on multidisciplinary collaboration as the college builds strengths across the full domains of teaching, discovery, and professional service.

Smith is an elected member of the National Academies of Practice and a diplomate of the American College of Veterinary Surgeons. He earned a DVM, with distinction, from the University of Guelph in 1974. He was an assistant professor of surgery at Cornell from 1977 to 1983, then at the University of Wisconsin School of Veterinary Medicine for four years; he returned to Cornell in 1987 as chairman of the Department of Clinical Sciences. He served the college as associate dean for academic programs from 1990 to 1997.

Cornell's College of Veterinary Medicine, which is currently ranked first in the nation by U.S. News and World Report, was chartered by the State of New York in 1894. Today the college has 320 students in the four-year DVM program and 120 students in graduate programs; faculty total 160.

Compiled from text provided by Jeri Wall and Cornell News Service.
Endnote

“Mr. President, I have the honor to present these candidates, who have fulfilled the requirements and who are duly recommended by the faculty of the College of Veterinary Medicine for the degree of Doctor of Veterinary Medicine.”

“Thank you, Dean Smith.”

“Upon the recommendation of the faculty and by the authority vested in me by the Trustees of Cornell University, I hereby confer upon each of you the degree DOCTOR OF VETERINARY MEDICINE with all the rights, privileges, honors, and responsibilities pertaining thereto.”

With these words, spoken on a cloudy May morning on Schoellkopf Field, the complement of Cornell DVMs increased from 4,783 to 4,861.

From Daniel Salmon in 1876 to Jennifer Zurcis in 2001, this annual investiture of Cornell DVM degrees fulfills the dreams and expectations of graduates and their families in a dazzling harmony of joy and expectation.

Though the formal convocation ceremony for the approximately 5,500 Cornell graduates took place before a packed stadium on Sunday morning, May 27th, the families of veterinary graduates will remember with greater fondness the Hooding Ceremony of the preceding afternoon. As the inductees to the veterinary profession were recognized individually by the placement of the distinctive black-and-gray hood, their future plans were announced to the assembled audience:

- Entering a small animal practice in Rochester...
- Internship in equine medicine at Rood and Riddle, Kentucky...
- Fellowship in large-animal ultrasonography and cardiology at Penn...
- Will be working at a mixed animal practice in Cayuga County...
- PhD studies in animal nutrition at Cornell...
- Joining a bovine practice in Rome, Pennsylvania...
- Mixed practice with her father, DVM '77...
- Commencement 2001 was also a special day for the Smith family, as our oldest child, Darryl, received his BS from the School of Industrial and Labor Relations. Serving as dean while having two of our children attend Cornell (Debbie will be entering her junior year in the College of Human Ecology), has been one of the more fulfilling experiences of the past four years. It has enhanced my perspective on the quality and diversity of educational experiences across Cornell’s campus, as well as providing insight into a broader range of college experiences.

Fortunately, from the student perspective, Cornell University’s administrative segmentation into a series of colleges is largely transparent to students. This oneness of Cornell, which unites statutory and endowed colleges as well as the humanities and the social and life sciences, provides an eclectic and rich array of courses and subjects beyond the students’ own college orientation or major. As a veterinary educator viewing these activities across campus, I have been impressed by the quality and commitment of faculty to the undergraduate teaching experience. Cornell professors place great emphasis on their role in preparing students for their next career goal; in some cases, they are preparing our future veterinary students and graduate students.

Our two children have also experienced the fullness of the extracurricular and social dimensions of Cornell. For Darryl, this has been through varsity football and fraternity life; for Debbie, it is through club rugby and the Cornell Symphony. Through these functions come discipline, development of skills in time management, support structures for the academic life, and, perhaps most importantly, a diverse array of friends and colleagues. Few things unite people of different racial, ethnic, or social backgrounds more effectively than striving for a common goal on the playing field. When this breadth of exposure built upon unity of purpose extends into the classroom and living experiences, the unifying elements of the human experience transcend the diversity of background and culture.

While the experience of being a parent may not necessarily make me a better dean, it has prompted me to consider a fuller range of dimensions of our students. I now wonder how their parents, spouses, and close friends are contributing to their well-being. I think more about the undergraduate advisors, and wonder how we are measuring up to the expectations of these individuals. I consider how our college can partner more effectively with faculty across campus, especially those involved in the life sciences. And I support with greater enthusiasm the courses and other experiences that our faculty provides for undergraduate students.

Finally, I have a greater sense of the financial and personal demands on students and their families, for now Doris and I can say with other parents, “Our children and our money go to Cornell.”

“Mr. President, I have the honor to present these candidates…..”

Donald T. Smith

VETERINARY MEDICINE
COMING EVENTS

JULY
14-18
AVMA Conference, Boston, Massachusetts

27-29
13th Annual Fred Scott Feline Symposium, Cornell

AUGUST
13-15
Cornell at Saratoga: A symposium for horse professionals and enthusiasts, Saratoga Springs, New York

OCTOBER
11-14
American College of Veterinary Surgeons Conference, Chicago, Illinois

12
Scholarship Reception

12-14
Homecoming Weekend (Harvard)

18-20
Trustee / Council Weekend

NOVEMBER
2-4
Parents Weekend

8-9
Equine Practitioners Conference, Cornell

10-11
Farrier’s Conference, Cornell

25-28
American Association of Equine Practitioners Conference, San Diego, California