CORNELL
Veterinary Medicine
SPRING 1998

# Cornell Team Helps Put Dog on the Map

It's not unusual to pick up a newspaper these days and find a story about another breakthrough discovery relating to human genetics. Since the development of a human genome map several years ago, the proliferation of important gene discoveries has been dramatic. Until now, however, researchers trying to apply the same burgeoning technology to the study of genetic defects in dogs have bumped up against a frustrating limitation: they had no map of the canine genome to guide them.

UNIVERSITY PHOTOGRAPHY/FRANK DIMEO

Kunal Ray, Gustavo Aguirre, and Gregory Acland in the laboratory

Thanks to a collaboration between scientists at Cornell's College of Veterinary Medicine and the Fred Hutchinson Cancer Research Center in Seattle, the study of canine genetics is poised to take a giant step forward. A two-year mapping effort by genetics researchers in the laboratory of Gustavo Aguirre, VMD, PhD, the Caspary Professor of Ophthalmology at the college's James A. Baker Institute for Animal Health, and a group headed by Elaine Ostrander, PhD at the Fred Hutchinson Center, has yielded the first-available linkage map of the canine genome, a tool that is expected to advance the study of both canine and human genetics.

Despite the obvious differences, we humans have a lot in common with our tail-wagging friends. Over the long course of evolution, human and canine DNA have maintained a remarkable degree of similarity. The genes that code for the traits that distinguish between us are mere details that account for less than five or 10 percent of the total coding sequence for either species.

Our kinship with dogs is especially apparent in our shared susceptibility to many inherited diseases. Aguirre and his Cornell colleagues — Gregory Acland, BVSc and Kunal Ray, PhD — are known for their studies of one group of such canine diseases known by the collective name of progressive retinal atrophy, or PRA. Although the Cornell scientists are primarily interested in addressing the problem of PRA in dogs, their work to determine the genetic causes of the various forms of PRA and the means to diagnose carrier status through DNA testing also has the potential to contribute to the understanding and prevention of retinitis pigmentosa (RP), the analogous group of diseases affecting humans.

In order to establish the genetic bases of the various forms of PRA and of other inherited diseases, members of the Aguirre laboratory have spent years developing special pedigrees of dogs. Through this work they have identified and characterized seven separately inherited forms of PRA and made significant progress toward the discovery of their underlying causes.

In the process, they have amassed a wealth of genetic information for use in mapping the locations of genetic mutations associated with PRA and other inherited traits.

We very early discovered that

CONTINUED ON PAGE 3

# Making Connections Across Traditional Boundaries

In articulating a vision for the College of Veterinary Medicine, I sense with urgency the need to espouse a culture of collaboration and to promote the integration of our scientific, clinical, and teaching programs.

Perhaps the most compelling reason for supporting meaningful collaboration across traditional boundaries is that academic partnerships broaden our perspectives and increase our insights into fields that are traditionally separate from our own domains.

Collaboration forces us to define a shared mission for the college and to increase our commitment to joint ownership of that mission. Faculty in the basic sciences need to understand more fully the unique animal and medical environment of this college, and they must feel that they contribute to the advancement of medicine as well as basic science. Equally important, faculty in the clinical domain need to feel that they

IMAGE LAB/ALEXIS WENSKI-ROBERTS

add relevance and purpose to the research programs that are basic to biological systems.

Adding to this challenge is the rapid emergence of new fields of study involving cellular biology, medical genetics, and structural biology, which places us at a threshold. We must now move beyond the tiresome debate of basic science versus applied science, to achieve a new understanding of science that has the potential for integrating chemical biology to basic biology; basic biology to biomedical science; and biomedical science to clinical medicine. This new paradigm is not uni-directional; rather, it forms a multidimensional matrix through a series of interconnecting feedback loops. The new emphasis is not on the application of the basic biomedical sciences to the clinical environment. Instead, the emphasis is on the fullest integration of these sciences in one medicine and one biology, where all scholarly scientific inquiry is valued equally by the institution and by society.

Dr. Jane Lubchenco, in presidential remarks before the American Association for the Advancement of Science in February, proposed a new social contract for science, one that promotes fundamental research within a broad spectrum of areas where new knowledge is urgently needed She called for the training of interdisciplinary scientists to work at the interface of traditional disciplines and to manage the evolution of science, society, and nature to help people cope with a changing environment. In short, she advocated collaboration to foster the advancement of scientific knowledge and its impact on society.

Today, the College of Veterinary Medicine participates in numerous collaborations on multifaceted levels. We work across disciplines and across department lines — within the college, throughout Cornell, and with colleagues around the world. We work with academia; scientists, practicing veterinarians, medical doctors; government and public health agencies; and industry.

Our vision is for the college to continue building strong collaborative programs, both internally and externally, to augment the contributions we make as a world-class veterinary and biomedical institution. As you read this issue of *Cornell Veterinary Medicine*, I trust that you will see evidence that this is, indeed, happening.

Donald F. Smith, dean

CORNELL Veterinary Medicine

*Cornell Veterinary Medicine* is published quarterly for friends and alumni of the college. Visit our World Wide Web site at: http://www.vet.cornell.edu

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Production Assistance: Media Services at Cornell University



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DOG MAP CONTINUED FROM PAGE 1

purebred pedigrees were too inbred to be suitable for mapping," says Acland. "Just as one schnauzer looks like another schnauzer, we found that the DNA of one schnauzer looks like the DNA of another schnauzer. The same is true of collies, for instance. But if you cross a collie and a schnauzer and look at subsequent generations from that breeding, you will start to see a lot more variation in the DNA of the individuals. So we set out to design extreme cross-breedings to yield the information needed for mapping."

That information proved to be a goldmine for Ostrander and her colleagues, including post-doctoral fellow Cathryn Mellersh, PhD; clinical research associate Amelia Langston, MD, now an assistant professor at Emory University; and graduate student Leigh Francisco. This group of geneticists is interested in the potential of the canine species to shed light on the inheritance of human diseases and other traits.

"In many cases, the dog is the only naturally occurring homolog for a human disease of interest," explains Ostrander. "To date, characterization of genes and genetic defects in dogs has relied on knowledge of homologous human genes. The availability of a canine genetic map will make it possible to reverse the direction of this information flow."

Aguirre already has seen the potential of the canine map to further human genetics research. "Our two groups have very recently identified markers

UNIVERSITY PHOTOGRAPHY/FRANK DIMEO

Cornell's canine genome map research team at Baker Institute

that localize two inherited diseases of dogs to a very specific region of the genome," he says. "When you compare the genetic sequences of dog and human, the conservation of gene order in this interval is striking. Our working hypothesis is that one of these diseases is the canine homolog of a human disease. If we can locate the gene mutation responsible for the canine disease, it may lead to the identification of the mutation in humans."

To construct the map, Ostrander's group developed a set of 150 highly variable DNA sequence repeats representing random locations throughout the canine genome. By checking these sequences against DNA from the various canine pedigrees supplied by the Cornell team, they were able to determine the location of 139 of these sequence repeats, or microsatellite markers, in relation to at least one other. In this way, they pieced together 30 groups of at least two markers each that map to separate, well-defined regions of the genome.

The next major step, already underway, will be to assign these groups to specific chromosomes. "Now that there's a map," says Acland, "we can expect that there will be a steady flow of disease genes being mapped. These will initially be single-gene defects, but in the longer term, more complicated traits will also become available for mapping, including the morphological and behavioral characteristics that are really the definition of the dog." ■

# Cornell's Office of Sponsored Programs Announces Research Awards

In the last several months, 13 new research awards totaling approximately one-and-a-half million dollars have been announced for studies being undertaken by faculty at the College of Veterinary Medicine.

— Peter Nathanielsz: $293,000 from Department of Health & Human Services/National Institutes of Health–National Heart, Lung, and Blood Institute for study of thyrotropin releasing hormone and glucocorticoid actions on the trimate fetal lung

— Susan Suarez: $280,000 from US Department of Agriculture/Cooperative State Research, Education, and Extension Services for study of mechanisms governing movement of sperm in the oviduct

— Roger Avery: $208,000 from Department of Health & Human Services/National Institutes of Health–National Center for Research Resources for development of a feline model for anti-lentivirus therapy

— Jun-Lin Guan: $182,000 from Department of Health & Human Services/National Institutes of Health for molecular analysis of signal transduction by integrins

— Robert Oswald: $166,000 from American Cancer Society for study of structure and regulation of Cdc42Hs

— Syed Naqi: $100,000 from US Department of Agriculture/Cooperative State Research, Education, and Extension Services for study of tissue tropism and in-vivo persistence of avian infectious bronchitis virus

— James Casey: $90,000 from American Cancer Society for study of development and regression of retroviral-induced sarcoma

— Theodore Clark: $59,000 from US Department of Agriculture/Cooperative State Research, Education, and Extension Services for study of whether DNA vaccine can induce cutaneous immunity in fish

— John Bertram and Susan Larson: $40,000 from National Science Foundation for study of passive and active factors in branchiation mechanics

— Yung-Fu Chang: multi-sponsorship, including $35,000 from Morris Animal Foundation, for the development of a gene vaccine against canine Lyme disease

— Laura Rosa-Brunet mentored by Edward Pearce: $25,000 from Department of Health & Human Services/National Institutes of Health–

Researchers studying the causes of cancer at Cornell University's College of Veterinary Medicine will be aided by grants from the American Cancer Society.

Robert E. Oswald, professor of pharmacology, received $166,000 in ACS funds for a two-year study, "Structure and Regulation of Cdc42Hs," while James W. Casey, associate professor of microbiology and immunology, was granted $90,000 for a two-year continuation of his study, "Development and Regression of a Retroviral Induced Sarcoma."

The Oswald study examines mutations in pathways used by growth-factor relay signals from the outside of cells to the cell nuclei, a process that underlies several forms of cancer, including leukemia and breast cancer. The study focuses on one protein, Cdc42Hs, that is a "biological switch" in growth-factor signaling pathways. By determining the three-dimensional structure of the switching protein, Cornell researchers hope to explain more about the signaling process and to aid in the identification of new drug targets.

The Casey study examines a complex retrovirus called walleye dermal sarcoma virus (WDSV) and the tumors it causes on the skin of fish. Because certain fish tumors grow and regress on a seasonal basis, the Cornell researchers are interested in WDSV and in explaining how other cancer-related retroviruses interact with the immune systems of their hosts. The study could produce new information about how processes such as superinfection, viremia and immune responses are related to cancer in other animals, including humans.

National Institute of Allergy and Infectious Diseases for study of the role of TH2 response in *Schistosomiasis mansoni*, a helminthic infection of major public health importance as it affects 200 million people in developing countries causing serious chronic illness in tens of millions

— ALAN NIXON: $24,000 from Morris Animal Foundation for study of genetic mechanisms in equine osteochondritis dissecans that define the molecular aberration in cartilage

— JAMES MACLEOD: $7,500 from Human Growth Foundation for study of the regulation of chondrocyte proliferation and differentiation by P21CIP1/WAF1 ■

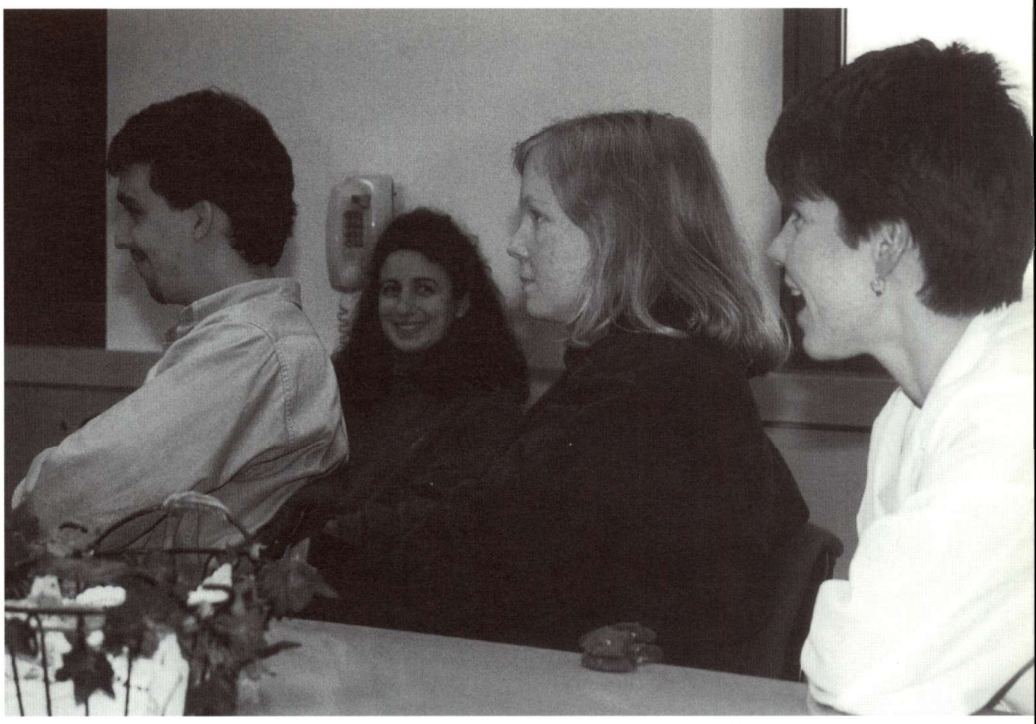
The American Cancer Society is the largest private source of cancer research funds in the United States. To date, the society has invested more than $1.5 billion in cancer research. This is made possible through the generous support of people in the community who give to the local American Cancer Society fund-raising activities. In addition to supporting research projects such as those at Cornell, the society provides educational programs on prevention and early detection as well as support to cancer patients and their families.

# Wildlife Expert Speaks

In November as A.D. White Professor-at-Large, renowned primatologist Jane Goodall visited the College of Veterinary Medicine. Hosted by George Kollias, DVM, PhD, Jay Hyman Professor of Wildlife Medicine, she spoke to a group of faculty and students in the wildlife health program.

UNIVERSITY PHOTOGRAPHY/SHERYL SINKOW

Jane Goodall



UNIVERSITY PHOTOGRAPHY/SHERYL SINKOW

Some of those in attendance included (left to right) Eric Baitchman, Class of '00; Noha Abou-Madi, DVM, MSc, postdoctoral associate in wildlife medicine; Lillian Good, Class of '99; and Morna Pixton, Class of '98.

# Zweig Memorial Fund Announces Annual Awards

UNIVERSITY PHOTOGRAPHY/ROBERT BARKER

Veterinary microbiologist Yung-Fu Chang with several of the vaccinated roan ponies who are part of his study to develop an equine vaccine for Lyme disease

The Harry M. Zweig Memorial Fund for Equine Research has announced its 1998 awards. Eight research projects will be funded with approximately $288,000.

**New Awards**

— Stephen Barr: $26,000 for study of endoproteases of *Sarcocystis neurona*, drug and vaccine targets

— Alan Nixon: $48,000 for study of growth factor gene therapy approaches to equine cartilage repair

**Renewals**

— Douglas Antczak: $40,000 for horse genome project

— Yung-Fu Chang: $80,000 for vaccination against Lyme disease in the horse, part II: immunization of horses against Lyme disease

— Patrick Concannon and Peter Daels: $11,100 for a field study of induction of reproductive function in anestrous mares using a dopamine antagonist

— Douglas McGregor: $7,700 for career development training for equine research scientists

**Revisions**

— Dorothy Ainsworth: $45,000 for immunotherapy for the treatment of chronic obstructive pulmonary disease in athletic horses

— Peter Daels: $30,000 for ontogeny of luteal and fetal steroidogenesis during early pregnancy in mares ■

# Alumni Unrestricted Awards

In December 1997, the Joint Faculty/Alumni Committee announced the distribution of Unrestricted Alumni Funds in the form of small competitive grants for 16 projects totaling approximately $70,000.

Since 1980, Unrestricted Alumni Funds have provided awards totaling more than $2,150,000.

**Recent grants awarded:**

— Michael Ball: $4,000 for study of the pharmokinetics and clinical efficacy of albuiterol in the horse

— Paul Bowser: $7,000 for development of Web pages for courses in aquatic animal health

— Sharon Center, Stephen Barr, and Jay Harvey: $14,000 for laparoscopic equipment for diagnosis and surgery in small animals

— Julie Corbett and Sharon Center: $1,500 for evaluation of the serum-abdominal effusion albumin gradient as a diagnostic aid in the classification of abdominal effusion

— Kechia Davis: $1,500 for a conference entitled Cross-Cultural Perspectives in Veterinary Medicine

— Alexander deLahunta: $2,500 for conversion of 16mm film of clinical neurology classes to videotape for classroom teaching purposes

— Normand Ducharme: $1,400 for a training seminar for a proposed sports medicine and rehabilitation center

— LAURIE GOODRICH: $4,000 for general anesthesia, improving anesthetic recoveries and decreasing post-operative hindlimb lameness in horses following bilateral stifle arthroscopy

— FIONA HICKFORD AND STEPHEN BARR: $5,000 for study of the effect of carprofen administration on coagulation, liver, and renal parameters in dogs

— JOHN KING: $5,000 for a computerized catalog of gross pathology

— REBECCA LONSDALE: $700 for negative contrast shoulder arthrography in the dog

— SEAN MCDONOUGH: $6,000 for improved diagnosis of canine leukemia and lymphoma by immunophenotyping

— PAULA MOON AND MARIA GLOWASKI: $5,200 for study of the effect of oxypolygelatin on blood coagulability in healthy dogs

— PETER SCRIVANI: $1,800 for evaluation of student learning in radiology

— ERIC TROTTER: $2,000 for study of the analgesic effects of perioperative carprofen administration in dogs undergoing cranial cruciate ligament repair

— LORIN WARNICK: $3,000 for study of penicillin residues in milk after subconjunctival injection in lactating dairy cows ■

# Consolidated Research Grants Top $200,000

Recently the College Research Council announced the results of the 1997–98 Consolidated Research Grants competition. Research projects selected for awards are funded by gifts made available to the college. This year, 11 grants were made, totaling approximately $202,000, says Douglas McGregor, associate dean for research and graduate education at the college.

**The following grants have been awarded:**

— THEODORE CLARK: $20,000 for study of mechanisms of immunity against the parasitic ciliate ichthyophthirius multifiliis

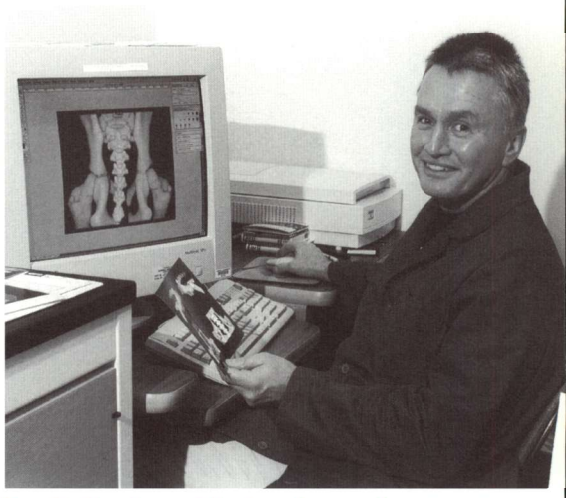
— ERIC DENKERS: $19, 200 for study of the roleo of the endotoxin signaling system in toxoplasma gondii-triggered macrophage activation

— ROBERT GILBERT: $14,900 for study of the effect of urea and urea-influenced uterine secretions on bovine embryo development in vitro

— PAULA MOON: $19,300 for study of the effects of magnesium treatment on the regional distribution of fetal blood flow during maternal hemorrhage in a pregnant sheep model

— JHARNA RAY: $20,000 for studies on the molecular basis of oculo-skeletal dysplasia in canine models

— SUSAN SUAREZ: $19,800 for study of regulation of bovine sperm movement



UNIVERSITY PHOTOGRAPHY/FRANK DIMEO

Rory Todhunter, assistant professor of surgery, reviewing images of the hips of a growing Labrador puppy, details in a study to track, from birth to adulthood, the early skeletal development and process of ossification that leads to a malformed hip joint. Understanding the abnormalities in the process will enable detection of the earliest signs of canine hip dysplasia and osteoarthritis.

— RORY TODHUNTER: $20,000 for study of growth and development of normal and dysplastic canine hips

— LORIN WARNICK: $18,700 for adaptation of survival analysis methods for dairy epidemiological research

— GREG WEILAND: $10,000 for study of the structural basis for reduced mivacurium metabolism by serum butyrylcholinesterase in dogs

— GARY WHITTAKER: $20,000 for study of evolution of nuclear import pathways in orthomyxoviruses

— NENA WINAND: $20,000 for study of the role of the human MSH5 protein in meiotic recombination ■

# Management Practices Are Key in Slow

## The Risk of DT104

Hoping to safeguard the health of farm animals and the people who care for them, diagnosticians at Cornell's College of Veterinary Medicine are urging farm operators to implement management practices aimed at slowing the spread of *Salmonella Typhimurium*, the antibiotic-resistant bacterium, *Typhimurium* DT104.

"*Salmonella* can gain access to the farm via carrier cattle, contaminated feed and water, or even from infected wildlife, including birds," said Patrick McDonough, MS, PhD, a bacteriologist at the college's Diagnostic Laboratory. "We see an increased risk of infection in any dairy herd that is buying animals as replacements or that is rapidly expanding, especially when newly added animals are not initially separated from the resident herd and where sick cows are housed near cows that have recently calved. We currently do not know all of the potential risk factors for the contamination of a dairy herd with DT104."

The Cornell Diagnostic Laboratory identified DT104 as the agent responsible for an outbreak of bacterial illness in dairy cattle and humans last year at a Vermont farm. In what the Centers for Disease Control (CDC) now regards as the first proven case of animal-to-human transmission of DT104 in the United States, nearly 10 percent (13) of the Vermont farm's dairy died, nine of 10 family members became seriously ill, and one nearly died. CDC investigators suspect the Vermont infections resulted from drinking raw (unpasteurized) milk and contact with sick animals.

DT104 also was found by the Diagnostic Laboratory in samples from other dairy farms, horses, small-animal hospitals, and zoological collections in the Northeast. In the United Kingdom, recent cases of DT104 illness in humans have been traced to contaminated meat products, particularly sausage and meat paste.

Although there have been no confirmed cases of DT104 food poisoning in the United States — other than the unpasteurized milk in Vermont — public health officials fear the disease could spread to the food supply during the slaughterhouse processing of infected cattle.

The results of salmonellosis from DT104 can be similar in cattle or in humans: high fever, rapid dehydration, bloody diarrhea and, if the disease is not treated, death from blood poisoning. The bacteria can survive in a wide variety of conditions and can spread predominantly through feces, although saliva from infected calves, as well as contaminated food and water. Of all the *Salmonella* strains known to infect humans, DT104 is regarded as one of the most likely to cause severe illness.

DT104 is resistant to several common anti-microbial drugs, including ampicillin, chloramphenicol, streptomycin, sulfa, and tetracycline, and is showing decreased susceptibility (but not yet clinical resistance) to one of the remaining anti-microbial drug groups in the medical arsenal — fluoroquinolones. DT104's resistance to specific anti-microbial drugs is one diagnostic marker that is used to fingerprint DT104 among more than 2,000 *Salmonella* types.

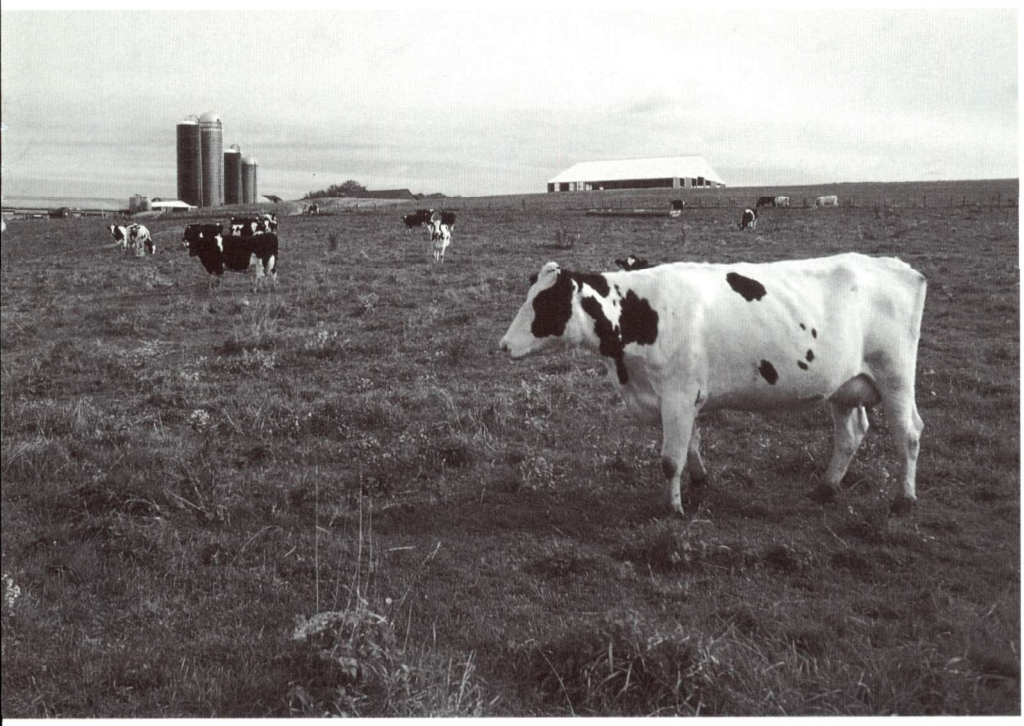
Veterinarians were just becoming familiar with another relatively new serotype, *Salmonella Dublin*, a form that was reported in California before World War II and that finally reached New York and other eastern states in 1988, McDonough said. "But *Salmonella Typhimurium* — and DT104 in particular — is the emerging

### Salmonella survival

Salmonella bacteria have a remarkable ability to survive under adverse conditions — in pHs from 4 to 8 and temperatures between 8 and 45 degrees Celsius. Salmonella are facultative anaerobic bacteria that thrive in places with little or no oxygen, such as manure slurry pits and stagnant water. UV rays and beta and gamma irradiation have a bactericidal effect on salmonella, as do cleaning solutions of chlorine, iodines, ammoniums and phenolics. However, many salmonella strains are relatively resistant to food-preservation methods such as drying, salting and smoking.

UNIVERSITY PHOTOGRAPHY/CHARLIE HARRINGTON

# ing *Salmonella* Infection



## Breaking the cycles

The ubiquitous salmonellae are found almost everywhere in the environment — in soil, water, and their animal hosts — and epidemiologists now believe the eradication of salmonella is impossible to achieve. Rather, veterinary efforts are now directed at breaking the cycles of infection, such as the fecal-oral cycle. If cattle feed is being contaminated by manure of other animals — because cattle walk through feeding areas or because the same machine is used to transport both feed and manure — veterinary specialists can identify an opportunity to break a life-threatening infection cycle.

type to watch, in part because of its drug-resistance and its virulence," he said. "The worst year for *Salmonella Typhimurium* cases in our lab was 1996 — one of the wettest years on record in the Northeast, and *Salmonella* loves standing water — but 1997 is not far behind."

Now the Diagnostic Laboratory, which already runs on-farm prevention programs for infectious diseases (such as bovine leukosis, bluetongue and Johne's disease), is hoping to focus concern on salmonellosis, said Donald Lein, DVM, PhD, director of the laboratory. Surveillance in part of the state is possible, Lein said, because the laboratory screens samples from 40 dairy farms in the New York City watershed through an ongoing program to ensure environmental safety of drinking water supplies. Another way to trace DT104's potential path through the food supply would be testing at meat-packing plants in the Northeast, where Cornell scientists conducted a 1995-96 study of possible *E. coli* O157:H7 contamination in slaughtered cattle.

In the meantime, the Cornell diagnosticians are asking farm operators and their veterinarians to be aware that *Salmonella Typhimurium* DT104 could appear in their herds.

"This disease can occur almost anywhere — in wild animals, domestic and exotic animals, in pets, in humans and in our food supply — and it's not clear what the initial source or the present reservoir is for DT104 in the United States," McDonough said. "But we are seeing increasing numbers of farms with salmonellosis, including DT104."

For those who would like more detailed information, two fact sheets are available: one titled "Public Health Concerns for the Farm Family and Staff" that includes general information about infection control and farm practices, and a second titled "Public Health Concerns for the Farm Family and Staff with Cattle Herds with Suspect *Salmonella Typhimurium* DT104 Infections" that includes specific information about the strain. The fact sheets are accessible on the World Wide Web at http://www.news.cornell.edu/releases/Jan98/DT104facts.html ■

# Web Site Redesigned

As 1998 began, the college redesigned and updated its site on the World Wide Web.

**http://www.vet.cornell.edu**

The entire site has been restructured, says Roberta Militello, college Web administrator, to assure the most clarity and effectiveness for a wide range of users. "We evaluated the needs of our audiences and restructured the logic and content accordingly," she explains.

The changes in the Web site reflect input from many sources, says Militello, including the office of public affairs, computing services, faculty, students, staff, and the general public.

"Web sites are dynamic by nature, works in progress," explains Militello. "We are constantly adding new features and looking for creative approaches for organizing the college's vast resources on the Web."

The site now boasts many new features — including an events calendar, *About the College* section, and *Alumni Forum* — with many others under development. Technical support for the update was provided by the college's office of computing services.

The home page of the site now opens with the heading *Cornell Veterinary Medicine* and features a photograph that changes daily. From the home page, users can select from a list of topics (for an overview of the site content, users can refer to the *Site Map*) arranged to help them find accurate, up-to-date information fast. ■

## Contents of the *Site Map*

***Public Resources* includes:**

— *About the College*, introductory pages with information about history, facilities, contacts, and the missions of education, research, and service

— *News and Events*, an events calendar, previews of the college's subscription newsletters *CatWatch* and *DogWatch*, the last four issues of the college's quarterly newsletter *Cornell Veterinary Medicine*, and scripts from the radio program *Animal Instincts*

— *Showcase*, highlights of a current college activity or breakthrough

— **Animal Health*, information, resources, and tips about caring for specific species of animals

***Extension & Services* includes:**

— *Alumni Forum*, a place to interact with other alumni, students, and faculty on topics of your choosing; requested by the college Alumni Association, it features a log-in for security.

— **Clinical Services*, information about the college's Veterinary Medical Teaching Hospital, both the Companion Animal Hospital and the Equine & Farm Animal Hospital

— **Continuing Education*, information on veterinary medical classes, workshops, and conferences

— *Consultant*, an on-line veterinary diagnostic resource developed by the college's clinical sciences department and computing services office

— *Image Lab*, a service providing graphics and imaging resources

— **Information Services*, links to the resources of the Flower-Sprecher Veterinary Library and the Cornell University Library

— *Pet Loss Support Hotline*, a grief counseling program for those who have recently lost companion animals

***Research & Development* includes:**

— **Research and Development Services*, information about the college's cooperative and contract research relationships with the biotechnology, human medicine, and veterinary pharmaceutical industries for veterinary and biomedical research

— *Cornell Corporate Connections*, resources for corporate and university partnerships

***Academics & Admissions* includes:**

— *Admissions & Financial Aid*, information for students and potential students

— **Research & Graduate Education*, information about Cornell's Leadership Program, the Harry M. Zweig Memorial Fund for Equine Research, and graduate education programs at the college

***External Resources* includes** links to Cornell University information pages, Web sites of other veterinary colleges in the United States, Web sites with veterinary medical information, and veterinary student organizations at Cornell.

***Searches & Directories* provides** contact resources and allows you to use key words and phrases to find information on the Web site quickly.

* currently under development

# Task Force Focuses on Good Laboratory Practices

UNIVERSITY PHOTOGRAPHY/FRANK DIMEO

The task force during a recent discussion

An interdepartmental group at the college has begun to develop a process for setting up GLP research laboratories. "Good laboratory practices are those protocols and quality assurance standards used in non-clinical laboratory studies that support applications for research or marketing permits for products regulated by the US Food and Drug Administration," explains Thomas Reimers, PhD, director of research and development services and a member of the task force.

Others in the GLP task force are Paul Bowser (department of microbiology and immunology), Joe Ebel (Diagnostic Laboratory), Richard Holsten (Cornell Office for Technology Access and Business Assistance), Richard Jacobson (Diagnostic Laboratory), Diann LaPoint (Cornell Center for Research Animal Resources), Steve Lamb (Diagnostic Laboratory), and Tracy Stokol (department of pathology).

Members of the workgroup were part of the 55 faculty and staff who participated in a recent workshop on good laboratory practices sponsored by the college's office of research and development services and the Biotechnology Center.

"It will be a challenge for the college to achieve GLP compliance," says Reimers, "as it involves both time and financial commitments by the laboratories involved. But it is an important goal, as compliance with GLP regulations often is part of the decisionmaking process when industry seeks facilities to outsource its research."

Those interested in more information about Good Laboratory Practices should contact Reimers by email at tjr4@cornell.edu or by phone at 607-253-3900. ■

# Win-Win:
## Estate and Retirement Planning

**Friday, March 20, 1998**

**12:30 to 2:00 pm**

**John D. Murray '39**
**Lecture Hall (LH II)**

**Veterinary Education Center**
**College of Veterinary Medicine**

Alumni and their families are invited to a free seminar during the college's 1998 Annual Conference by speaker and financial expert Elwyn Voss, '64, MS '70.

Voss will help seminar participants learn how to use assets to generate income for themselves and/or their heirs, receive current or future tax benefits, and help Cornell (or another favorite charitable organization) in the process.

This will be an informational, not a sales seminar. For those who attended last year, please note that Voss's presentation has been updated to reflect the impact of the 1997 Tax Act.

Feel free to bring your lunch and join us.

Alumni may sign up for Win-Win on the registration form for the Annual Conference or RSVP to Nancy Gehres in the office of public affairs at 607-253-3747, or by email: cvmopa@cornell.edu.

*Sponsored by the college development committee*

# People, Honors, and Awards

**Gustavo Aguirre**, VMD, PhD, the Alfred H. Caspary Professor of Ophthalmology at Cornell University, has been selected to receive the World Small Animal Veterinary Association's International Award for Scientific Achievement for 1998. Aguirre, who conducts research on inherited eye disease at the college's Baker Institute, will be cited for his "outstanding contribution to the advancement of knowledge concerning disorders of companion animals." The award is sponsored by the Waltham Centre and will be presented at the WSAVA World Congress in October in Buenos Aires.

**Bruce Calnek**, DVM, MS, Steffen Professor of Veterinary Medicine, Emeritus, has been awarded the Joszef Marek Commemorative Medal for "outstanding research achievements." The medal, rarely given to individuals outside the Hungarian scientific community, was awarded by the University of Veterinary Science Budapest during the 11th Congress of the World Veterinary Poultry Association in Hungary last summer. Joszef Marek, a veterinary pathologist who served on the faculty in Budapest for many years, was the first to describe the neoplastic disease of chickens now called Marek's disease, the study of which has been the focus of Calnek's research.

**Katherine Houpt**, VMD, PhD, professor of physiology, and director of the college's animal behavior clinic, has been named co-chair of the Cornell Institute for Animal Welfare along with John Parks, PhD, MS, associate professor of animal science at the College of Agriculture and Life Sciences. The institute, established in the summer of 1997, is based in the College of Veterinary Medicine; its mission is to foster discussion and research on issues concerning animals in agriculture, laboratories, and the wild.

**George Lust**, PhD, professor of physiological chemistry at the college's James A. Baker Institute for Animal Health, will present a seminar titled *Hip Dysplasia and Osteoarthritis in Dogs*, during the April 8 Alumni Forum sponsored by Cornell's College of Agriculture and Life Sciences. Also presenting at the forum will be **Bendicht Pauli**, DVM, PhD, professor of pathology, who will present a seminar titled *Tumor Progression and Metastasis*.

**Hussni Mohammed**, BVSc, DPVM, MPVM, PhD, associate professor of epidemiology in the college's department of clinical sciences, has been awarded a Senior International Fellowship sponsored by the Fogarty International Center of the US Department of Health and Human Services. The competitive award is designed to contribute to advancing international cooperation in the biomedical sciences.

## In Memoriam

**Norman S. Brungot**, DVM '43, of Colebrook, NH, died on September 19, 1997. He was a retired, predominantly large-animal practice owner.

**J. Mitchell Floyd**, DVM '47, died in February 1997 at his home in DeLand, Florida. He spent most of his life in Connecticut, where he was the owner and founder of the Milford Animal Hospital. Following retirement, he spent the last 15 years in Florida. He was a member of the Connecticut Veterinary Medical Association and the American Veterinary Medical Association. In December 1997, Floyd's widow, Audrey, also passed away. Dr. and Mrs. Floyd are survived by two children (Gail Richter and Bruce Floyd), two grandchildren, and one great-grandchild.

**Harry Glass**, DVM '35, passed away in December 1997. A fixture at Cornell veterinary reunions, March conference, and Homecoming, Glass was a staunch contributor to the college and also donated many volumes to the Flower-Sprecher Veterinary Library at Cornell.

**Lloyd E. Moore, Jr.**, DVM '44, died on January 27. He was a large-animal veterinarian in practice with his father, Lloyd E. Moore, Sr., DVM '17, in Amsterdam, New York, until the mid-1980s. He had been active in the early days of the New York State mastitis control program. He was a member of the Hudson Valley Veterinary Medical Society and New York State Veterinary Medical Society, and an honorary member of the American Veterinary Medical Association. Memorial contributions may be directed to the Lloyd E. Moore, Sr. & Lloyd E. Moore, Jr. Scholarship Fund, Office of Public Affairs, Box 39, College of Veterinary Medicine, Cornell University, Ithaca, NY 14853-6401. ■

## Cross-Cultural Perspectives

### A Conference on Racial Diversity in Veterinary Medicine

**April 3 to 5, 1998**

**Cornell University**
**Ithaca, New York**

*Hosted by*
*Veterinary Students of Color*
*College of Veterinary Medicine*

**Featuring:**

Guest speakers, panel discussions, theatre, and workshops examining how issues of race and culture affect the veterinary community

**Keynote speaker:**

Dr. Eugene Adams, former associate dean of the Tuskegee College of Veterinary Medicine

"The Historical Significance of People of Color in Veterinary Medicine"

**Conference information:**

Kechia Davis, '99, at 607-277-8831 or kmd6@cornell.edu

Hussni Mohammed, at 607-253-2566 or hom1@cornell.edu

*Coming Events* at http://www.aavmc.org

**Registration:**

Office of Continuing Education at 607-253-3200 or lra2@cornell.edu

## William A. Hagan Society Established

The college's development committee recently announced the establishment of the William A. Hagan Society, a special recognition society honoring donors whose annual gifts to the college range from $3,000 to $4,999.

The Hagan Society joins the group of other giving societies formed to recognize the university's most generous annual donors: President's Circle (annual gifts of $25,000 or more), Dean's Circle (annual gifts of $10,000 to $24,999), Tower Club (annual gifts of $5,000 to $9,999), Quadrangle Club (annual gifts of $1,000 to $4,999), and Charter Society (annual gifts of $500 to $999).

Hagan became a faculty member at the College of Veterinary Medicine in 1916 and served as dean of the college from 1932 to 1959; he retired in 1959 after 46 years at Cornell. Given the length of his tenure at Cornell and the pivotal changes that occurred under his leadership, most alumni and faculty would agree that the significance of Hagan's role in the history of the college was second only to that of James Law. The faculty and graduates through four decades at the college remember Hagan as a gracious man who always took time to know his students and colleagues on a personal level.

"Creating the society honors former Dean Hagan, who devoted so much of his life to

the college," explains Robert Lynk, BS '54, DVM '61, chair of the 1997–98 Alumni Annual Fund. "At the same time, it is a public thank you to alumni who have prospered as doctors of veterinary medicine and who generously share the fruits of their labors with the college that helped make their good fortune possible." ■

# Recent Gifts to the College

### Lloyd's of London Bursary Award

Cornell's recipient of the 1997-98 Lloyd's of London Bursary Award is Christopher Byron, Class of '98. Lloyd's seeks nominations for the awards each year from American veterinary colleges. The scholarship is sponsored by Lloyd's Equine Research and Education Committee as part of a program to benefit the American veterinary industry involved with thoroughbred horses. Recipients are final-year veterinary students who plan to specialize in equine medicine and have demonstrated an interest in working with thoroughbred horses.

### S. Gordon Campbell Annual Lecture Fund

Veterinary students who are members of Veterinarians Interested in Developing Areas (VIDA) have announced the establishment of a fund for the S. Gordon Campbell Annual Lecture. The lecture series will honor the memory of Gordon Campbell, BVMS, MRCVS, MVSc, PhD, former professor of microbiology and associate dean who died in September 1997, and his initiation and development of Cornell's Expanding Horizons program in international veterinary medicine. Lectures are planned in the fall of each year, complementing the George C. Poppensiek Visiting Professorship in International Medicine. Annual speakers will be drawn from the international veterinary community; lectures will include topics such as public health in developing nations, conservation medicine of endangered species, wildlife/agricultural animal interactions, disease transmission, technology transfer, roles for veterinarians in public policy positions, and sustainable agriculture. VIDA members hope to raise $25,000 to endow the annual lecture in perpetuity. Contributions are being solicited from alumni who were students of Dr. Campbell, from corporations and organizations with which Campbell worked, and from organizations that have supported student group activities in the past. For more information, contact David Robertshaw by email at dr11@cornell.edu or by phone at 607-253-3854. Donations may be sent directly to the office of public affairs, Box 39, College of Veterinary Medicine, Cornell University, Ithaca, NY 14853-6401.

### Francis H. Fox Scholarship

Thanks to a 1997 Reunion gift from the Class of 1947, the Francis H. Fox Scholarship now tops $100,000. "This is especially remarkable," explains Alison Smith, associate director of alumni affairs and annual giving, "as all gifts to the scholarship fund have come from numerous individual alumni and friends. Since the fund's creation in 1990, it has received annual gifts from more than 300 different alumni, from graduates as early as 1931 and as recent as 1990." The endowment fund was established in 1990 in recognition of Dr. Fox's contributions to veterinary medicine as a teacher, clinician, and counselor for students and alumni throughout their professional careers. Preference is given to third- or fourth-year students with financial need who demonstrate interest in large-animal medicine and surgery and an aptitude for physical diagnosis. Current recipient of the Francis H. Fox Scholarship is Paul Virkler, Class of '98.

UNIVERSITY PHOTOGRAPHY/CHARLIE HARRINGTON

Paul Virkler, Class of '98, and Mrs. Francis H. Fox at the 1997 scholarship reception

### Massapequa Hospital for Animals Scholarship

Jennifer Rawlinson, Class of '98, is the first recipient of the Massapequa Hospital for

UNIVERSITY PHOTOGRAPHY/CHARLIE HARRINGTON

Jennifer Rawlinson, Class of '98, examining chocolate Labrador puppy Bailey in the Companion Animal Hospital's Community Practice Service

Animals Scholarship, created in 1994 by Stanley Fish, DVM '75 and Howard Schatz, DVM '75 and endowed in 1996. The scholarship is supported with gifts from Fish, Schatz, and Paul LaPorta, DVM '87, their partner in Massapequa Animal Hospital. Awards from the endowed fund are made to veterinary students with financial need who are from Massapequa or the general Long Island area.


Paul LaPorta, Stanley Fish, and Howard Schatz, scholarship donors and partners in Massapequa Animal Hospital

### Myrl Lynn Sammons '73 Memorial Scholarship

Lenora Sammons, DVM '73, has established the Myrl Lynn Sammons '73 Memorial Scholarship at the College of Veterinary Medicine in honor of her late husband, Myrl Lynn Sammons, DVM '73, who died in December 1995. The endowed scholarship provides assistance to veterinary students judged by the faculty to be in good standing academically; preference will be given to students with a background and strong interest in bovine medicine.

Myrl Lynn Sammons was known for his love of learning and profound dedication to the

Myrl Lynn Sammons, DVM '73

education of veterinary students. The endowed scholarship honors his lifelong pursuit and application of knowledge to improve the health of cattle. Sammons specialized in dairy cattle, an interest that began in his youth when he worked for a neighbor dairy farmer in Pennsylvania. While a veterinary student at Cornell, he was one of the first students hired to work in the dairy barn (known as "R" barn) on weekends. Following graduation and several years in the Army at the Institute of Infectious Diseases, he began a career of veterinary practice that would span 20 years at Willow Creek Animal Hospital in Reading, Pennsylvania. He was known for his community service. In veterinary college and while in practice, he served as a volunteer with local fire companies; he also was involved with dairy education and herd management with Extension , 4-H, Pennsylvania Young Farmers Association, and Pennsylvania Beef Cattle Association; he was a member of numerous professional organizations and advisory boards, and served as a veterinary medical consultant; at the time of his death, he served as supervisor of Bethel Township, Pennsylvania. In recent years, he had devoted considerable time as a guest lecturer at New Bolton Center, a facility of the School of Veterinary Medicine at the University of Pennsylvania, according to Robert Whitlock, DVM '65, PhD, associate professor of large-animal medicine at the center. Sammons also served as a mentor for veterinary students in the bovine club, who often accompanied him on large-animal calls from his practice. For years, says Whitlock, Sammons hosted the school's rotations in bovine medicine at Willow Creek, providing practical experience and case reviews during intense, two-week classes. He referred a large number of cases to New Bolton Center for treatment — and student education, often paying transportation costs himself. He was a lifelong student of the medical disorders of cows and worked to improve their welfare by designing systems to improve ventilation in barns and improve stalls to increase the animals' comfort. "In his eyes," says Whitlock, "all of us are students every day of our lives." ■

CORNELL
Veterinary Medicine

**College of Veterinary Medicine**
Cornell University
Ithaca, New York 14853-6401

CORNELL
UNIVERSITY

## Calendar of Events

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

### March

20–22 90th Annual Conference for Veterinarians

### April

18 32nd annual Open House, College of Veterinary Medicine, 10 am to 4 pm

### May

2 Memorial Service for S. Gordon Campbell
234 Lower Creek Road,
Hickory Ridge, Etna, NY
3 to 6 pm

24 Commencement

### June

4 Reunion Weekend

## To Continue Receiving This Newsletter...

We are updating our mailing list for *Cornell Veterinary Medicine*. If you wish to continue receiving the college's quarterly newsletter by mail, please send us the postage-paid card enclosed in this issue.

We must receive your reply card by May 1, 1998, if you wish to receive future issues of the newsletter. Thank you!

NOTE: **Alumni and faculty** of the College of Veterinary Medicine at Cornell do not need to send this reply card. These groups will continue to receive the college newsletter automatically.