Worldwide collaborations inspire discovery
FROM STETHOSCOPES | TO MICROSCOPES | TO THE SCOPE OF THE COLLEGE

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There is no better way to strengthen a community than by empowering those who live there through education. As the boundaries that divide our world continue to diminish, scientific discoveries and innovative practices will inevitably spread to all regions. In the specific case of animal health, we are further linked by shared risks: potential pandemics, reintroduction of regionally eradicated diseases, increased demand on global food supplies, and the decline of animal habitat, to name but a few. This issue of 'Scopes highlights Cornell’s continuing transition from national to global prominence in animal health, and here I argue for the necessity of that transition: its importance for the developing world and the value of that engagement for our institution and profession.

The College is in a unique position to help shape the direction and scope of the veterinary medical profession for several reasons. Cornell University’s founding tradition was a unique combination of academic excellence and practical impact, embodied by Andrew Dickson White and Ezra Cornell, respectively. We are the original Engagement University, and across the campus one finds evidence of growing international partnerships with an eye to strategic investments. President David Skorton has made the reimagining and revitalization of our International Programs a key goal of his next five-year term. Similarly, the College of Veterinary Medicine is recognized around the world as an engine of discovery and an unparalleled source of clinical and technical expertise in animal health. The many disease eradication efforts that have relied on vaccines and programs developed by our faculty and alumni have “exposed” the world to Cornell and trigger a fond anamnesis in many parts of the developing world. Across Asia, Africa, and South America, Cornell has strong programmatic ties in education, clinical care, and research assembled through the efforts of alumni, faculty, and our many research and clinical trainees. Our reputation as an educational innovator and trainer of faculty around the globe is well known. Thus, at a time when the state of animal health education in the developing world is undergoing rapid change, Cornell is positioned to shape that change in a way that strengthens veterinary medicine and anchors it firmly in the broad tradition of biomedical discovery. I view this point as particularly important: As the pressures to narrow animal health training build in a period of financial stress, and alternative models of education emphasizing minimal vocational standards proliferate, our influence is needed more than ever.
However, while Cornell’s engagement is important for our global partners and our shared environment, it is also immensely beneficial to us. Our students and faculty are enriched and gain opportunities through these efforts and interactions. Student exposure to foreign cultures through our Expanding Horizons, Smith Kilborne, Summer Leadership, China Dairy, and other programs is enormously valued and this cultural fluidity will be increasingly important in the job market. Our students return with renewed commitment and purpose, spreading the global bug to peers. Our global programs also allow us to successfully leverage the activities of the Animal Health Diagnostic Laboratory, our hospitals, and our research infrastructure through creative partnerships. This becomes increasingly important as we seek to expand markets and exploit emerging opportunities. Finally, our faculty benefit enormously from an international perspective, finding purpose and opportunity in interactions with the international veterinary community. Of course one of the most frequent outcomes of these interactions is the emergence of new collaborative research opportunities.

In this issue you will read about our partnership with City University of Hong Kong to develop the first veterinary college in Asia designed on the US model of veterinary education, about research that is being conducted with international colleagues on international soil, and whose results will serve the global good; and about a teaching initiative in China that is specifically addressing the needs of China’s dairy industry. The latter initiative is sometimes criticized as “aiding our competitors,” although I think this view misses several points. First, the transition that we are observing is occurring at a rapid rate, aided by industry consultants and driven by strong capital investment. Second, the availability of high quality milk in China, and the emergence of public confidence about that quality, will not materially affect the market for US milk or milk products either in the US or Asia. Third, this initiative does improve demand for professional services in education, consulting, and clinical practice, which helps the veterinary profession. Finally, the activity helps our College by diversifying our revenue and helping to further improve the quality of a Cornell veterinary education.

The College’s engagement and leadership in the international veterinary community has already produced noteworthy results. An international program established in 2006 has taught Zambians farming alternatives that reduce poverty and protect wildlife; through relationships with animal caretakers in Honduras, faculty and students are regularly treating medical conditions and offering suggestions for enrichment activities for native species; faculty and students just returned from our second China Dairy Institute, which continues to be highly valued by our partners. This past month we also hosted a team of faculty and administrators from Obihiro University, who visited to discuss ways in which Cornell could help shape their transition to a model more like Cornell’s veterinary college. These are a few examples of our many current activities, and those that are underway. As we increase our programmatic engagement in China, India, and Africa, we will need to thoughtfully expand our international curriculum, to modestly attract international students to our DVM program, and to hire faculty with strength in areas of international animal health. I look forward to these changes, which will be further evidence of Cornell’s increased global engagement.

I hope you enjoy this issue of ’Scopes, devoted to places and spaces, and I invite all of you to look for opportunities to engage in the profession on a global scale.

Cordially,

Michael I. Kotlikoff, VMD, PhD
Austin O. Hooey
Dean of Veterinary Medicine
Cornell China Dairy Institute has provided hands-on continuing education to approximately 70 Chinese veterinarians and veterinary technicians since its launch in September 2010. During the four-week program, participants from across China attend morning lectures at Sanhe City Vocational Education College followed by afternoon hands-on training at the Huaxia Dairy farm taught by Cornell veterinarians, veterinary students, and lab technicians.

For four weeks this past fall over two dozen dairy veterinarians converged on a private farm in Sanhe City, 37 miles east of Beijing. Here in China’s Hebei province, the Cornell University College of Veterinary Medicine has partnered with Huaxia Dairy as well as local Chinese educational, government, and agricultural institutions to lead an international collaboration that is benefiting animal health and food safety in China and beyond.

Revenue from the program goes to support the College’s local dairy programs in New York State, including food-animal externships and the highly successful Summer Dairy Institute on which the China program is based.
“This is one of the few international education programs to offer live hands-on veterinary training as well as lecture-based instruction,” said Dr. Lorin Warnick, associate dean for veterinary education at Cornell. “As agriculture and associated economies become increasingly globalized, the US has a growing interest in international disease management, food safety, and public health. The goals of the program are to advance clinical skills of veterinary staff and improve cattle care and welfare on Chinese dairy farms. Our faculty and students benefit from seeing the dairy industry firsthand in the world’s most populous country and one in which agricultural practices are changing rapidly.”

Tailored to meet the current needs of the veterinary community in China, content integrates topics such as how to care for sick or injured cows, calf health and heifer-raising, dairy reproduction, and techniques for ensuring high quality milk production.

“The China dairy program is part of the College’s global efforts and will help to transform animal health training in this region of the world,” said Dean Michael Kotlikoff. “The global community is connected in ways that are critical to the health and well-being of animals, people, and the environment everywhere. Cornell is positioned well to help influence the direction veterinary medicine takes, in the United States and around the world.”

The timing is right for this type of initiative, according to Charles Shao, CEO of Huaxia Dairy Farm, who explained that China’s dairy industry is presently in a growth phase.

“There is an intense desire to improve efficiency and production in China and to be able to support increased consumer demand for high quality milk and dairy products,” said Shao. “This collaboration has the potential to have a strong impact on the delivery of veterinary services to dairy farms in China.”

The program also supports goals outlined in the College’s strategic plan, including finding opportunities to influence the standards for veterinary practice followed around the world and providing teaching opportunities for Cornell veterinary students who may be interested in a career in academia.

Josh Boyden ’12 spent two weeks in China as a teaching assistant in October 2011.

“While faculty lectured in the mornings, employees would present us with cases and questions on the farm that demanded immediate attention,” said Boyden, who plans to go into large-animal practice in the Northeast after graduation. “The chance to interact with enthusiastic employees and promote good on-farm practices helped reinforce the importance of basics and offered great perspective and personal satisfaction.”

This year’s teaching team also included teaching assistant Karen James ’12; PhD student Dr. Soon Hon Cheong; alumnus Dr. Mark Thomas ’97; and Drs. Lorin Warnick, Charles Guard, Daryl Nydam, Robert Gilbert, Rodrigo Bicalho, Gary Bennett, and Michael Zurakowski.

“As the program grows, so do the College’s opportunities for international engagement,” said Dr. Warnick. “Most participants are dairy farm staff, but we have also begun to see graduate students attending from the Chinese Agriculture University in Beijing. Feedback has been very positive about the value of the course material.”

Support for the Cornell China Dairy Institute comes from student tuition, Huaxia Dairy, Pfizer Animal Health, the U.S. Grains Council, Alta Genetics, Land O’Lakes, Sanhe City Vocational Education College, and the Sanhe City government.
For horses, Iceland is a safe haven from disease. Several pathogens never made it to the island, whose native horses evolved for almost 1,000 years in isolation. Without facing diseases common outside, such as equine herpesvirus type 1 (EHV-1) and insect-induced allergies (called sweet itch or summer eczema), Icelandic horses never had to develop immunity to them. But immunological ignorance comes at a price: When they leave the country, these internationally popular horses are unusually vulnerable.

Yet in a discrepancy that has long puzzled immunologists, expatriate Icelandic horses give birth to far harder foals. Born outside Iceland, these foals are up to fifteen times less likely than their parents to develop allergies. In all breeds, foal and adult immune systems work very differently. Learning how and why could help prevent allergies earlier and enable better vaccines protecting foals from early-developing diseases like EHV-1.

Dr. Bettina Wagner, equine immunologist at the College of Veterinary Medicine, works with collaborators at Cornell and in Iceland to unravel the mystery of neonatal immune development with the help of Icelandic horses. In February 2012, 15 pregnant mares traveled from their native Iceland to Cornell University, meticulously protected from exposure to several common pathogens. With the help of collaborators at the University...
of Iceland at the Institute for Experimental Pathology Keldur in Reykjavik, Dr. Wagner’s group receives regular samples from the mares’ first brood born in Iceland last Summer. Comparing foals in Iceland to their forthcoming US-born siblings will reveal how separate factors (environmental and maternal) affect immune development.

Clinical collaborators at Cornell assisting with the project include Drs. Gillian Perkins and Dorothy Ainsworth. Dr. Klaus Osterrieder in Berlin will help in the study of EHV-1 while Dr. Mandi deMestre of the United Kingdom will collaborate on the immune regulation analysis. Cornell professor Dr. Hollis Erb will help with statistical analysis of the data.

“We want to know why foals born outside Iceland have better protection than those born in Iceland,” said Dr. Wagner. “It could be due to time of exposure, environment, or some combination of these, but the evidence points more to what the mother passes on.”

Dr. Wagner thinks that protective power may lie in a mare’s milk. Some mammals, including humans, start absorbing antibodies while in the uterus, but horses receive all immunities after birth. To absorb immune protection, newborn foals must quickly drink colostrum, which is packed with immune components.

Mares encountering new allergens may become hypersensitive to the antibodies their systems produce in response. But when they pass these antibodies on through milk, Dr. Wagner thinks that the foals’ budding immune systems may learn to use those same antibodies more constructively.

Dr. Wagner’s group investigates specific antibodies called immunoglobulin-E (IgE), which can go astray in allergic diseases, reacting to harmless stimuli and causing inflammation. Building our understanding of early immune development in horses and humans could help doctors treat allergies and early-striking diseases in both species.

“If we know how allergic diseases start early in life we can interfere before they develop,” said Dr. Wagner. “Horses are a valuable model for human allergies, for which regulatory mechanisms develop very early. It’s difficult to investigate human neonatal immunity, because most maternal immune transfer happens before birth. The horse system is more controllable, especially in Icelandic horses, and can reveal the separate effects of maternal transfer and environmental exposure.”

The study may improve protection from EHV-1, which often strikes before current vaccines designed for adult immune systems can protect foals.

“If we can learn how immune responses in foals differ from those in adults, we can use specific immune reactions that foals can mount early in life to develop better neonatal vaccines for earlier protection from a wide array of infectious diseases.”

This research is funded by the Harry M. Zweig Memorial Fund for Equine Research.
European livestock beware: bluetongue virus is coming your way, and it’s deadlier than ever. Once limited to warmer climes, the insect-borne virus’ new highly pathogenic strain has been spreading northward since 2006, reaching farther into Europe than ever before. Bluetongue’s rise threatens ruminants and the industries depending on them. Sheep and deer suffer most, developing dangerously high fevers, swollen mouths, and occasionally the disease’s signature blue tongue. Most infected sheep and deer die; other ruminants (cattle, goats, camels, buffalo, and antelopes) show milder symptoms but can carry the disease, further enabling its spread.

Illnesses, deaths, and international trade restrictions due to bluetongue have cost the world economy billions, including the United States, whose more benign strains still hinder livestock-related exports to bluetongue-free countries. Vaccines are not always effective: with 25 separate strains each needing yearly updates, the quickly-evolving bluetongue virus seems to defy defense.

In the arms race between virus and victim, human knowledge is catching up. Dr. John Parker, virologist at Cornell University College of Veterinary Medicine’s Baker Institute for Animal Health, has joined Israeli microbiologist Dr. Marcelo Ehrlich of the University of Tel Aviv to learn what makes bluetongue tick, unlocking the inner workings of its deadliest strain with discoveries that could help in designing a lasting universal vaccine.

“No one thought bluetongue would spread this far, and with current vaccines even the most watchful countries can’t protect themselves from it,” said Dr. Parker. “Insects carrying bluetongue don’t respect national borders, and climate change has let them expand their range. Meanwhile this new strain is especially virulent: good at bursting through cells to infect new ones. If we can learn how bluetongue kills cells and why this strain is so good at it, we may be able to better control its spread.”

When bluetongue invades a cell it creates a protein called NS3, reproduces, and eventually bursts through the cell. All strains produce NS3, but the more virulent strains produce an altered form. When experiments in Israel suggested NS3 helps degrade cells so the virus can escape, Dr. Ehrlich contacted Dr. Parker, a former collaborator, who studies cell death.

The pair has created a novel plasmid-based system to discover exactly what NS3 does using reverse genetics. While standard “forward” genetics start with a trait then look for the genes influencing it, recently developed “reverse” genetics systems manipulate specific genes to look for their effects. Drs. Parker and Ehrlich are making mutant bluetongue viruses that alter NS3 to see what it does in a cell.

“Reverse genetics has become the gold standard for doing molecular virology,” said Dr. Parker. “It’s particularly useful for studying specific proteins. But until recently it was very difficult to develop these systems for reoviruses, the family to which bluetongue belongs.”

In 2006 one of Dr. Parker’s collaborators created a new reverse genetics system that uses plasmids, easily copied pieces of bacterial DNA, to insert viral mutants directly into cells, skipping steps that once impeded the study of reoviruses.

“The majority of Cornell’s microbiology labs do this every day: they take plasmid DNA, mutate it, and study the effect on a protein,” said Dr. Parker. “It’s much more convenient and makes transferring genetic material between labs easier, enabling better collaboration. In Israel, where virulent bluetongue is common, Dr. Marcelo will conduct experiments that for biosecurity reasons could never be conducted in the US, where strains are relatively benign.”

The researchers took an unusual route in constructing the mutant viruses they will study: hiring a company to synthesize them from scratch.

“These days you can make a pathogen by putting in an order,” said Dr. Parker. “It was first done for Polio virus, and more and more researchers are taking this approach. It’s cheaper and faster than paying graduate students to spend months cloning genes. People used to learn PCR. Nowadays my lab staff learns how to place an order, making sure the DNA sequence they ask for is right.”

Their work is supported by the US-Israel Binational Agricultural Research Development (BARD) Fund, which funds collaborative research to solve agricultural problems.
Conservation in action:

First Indonesian to receive major fellowship will help save world’s rarest rhinoceroses
Deep in the Indonesian rainforest on the island of Java roam the last of earth’s most critically endangered large mammal species: the Javan rhinoceros. Once Asia’s most widespread rhinoceroses, these secretive forest-dwellers disappeared altogether from the continent’s mainland in October 2011, when the last individual was found dead in Vietnam with its horn chopped off by poachers. A single population of just 40 rhinoceroses survives in the western half of Java’s Ujung Kulon National Park, cramped into a corner of the island that has reached its carrying capacity.

The Indonesian government recently endorsed a daring plan to expand the range of their emblem species by establishing a second population with more room to grow. Yet a major concern remains. The plan involves moving some rhinoceroses from the isolated westernmost tip of Java to the eastern side of the park—an area surrounded by 19 agricultural villages whose inhabitants rely on water buffalo to work their rice paddies. No fences limit the wanderings of these loosely managed buffalo, which regularly pass into the park and could spread diseases that would quickly decimate the rhino’s population.

Cornell postdoc Dr. Kurnia Khairani has received a Fellowship Training Grant from the Morris Animal Foundation to address this problem. With the help of faculty and students at the College of Veterinary Medicine, Dr. Khairani is combining fieldwork in Indonesia with labwork and training at Cornell to improve the health and outlook of Javan rhinoceroses.
“Of the five rhinoceros species, the Javan is the rarest, and Dr. Khairani’s work is critical to its future,” said Dr. Robin Radcliffe, director of the Cornell Conservation Medicine Program, one of the world’s foremost experts working in rhino conservation. Dr. Radcliffe oversees the project and is excited by its possibilities. “Dr. Khairani herself is a major investment for conservation efforts in this region: she will take her Cornell training back to Indonesia and become a decision-maker in her own country. Cornell is involved in real-world conservation, training people who will use what they learn here to tackle new problems in the race to preserve biodiversity.”

A postdoc in the laboratory of immunologist Dr. Julia Felippe, Dr. Khairani will work under the joint mentorship of Drs. Felippe and Radcliffe. Additional mentorship from epidemiologist Dr. Daryl Nydam and microbiologist Dr. Pat McDonough will round out Khairani’s skills.

Conducting a preliminary health survey of village buffalo, Dr. Khairani found several diseases of concern to rhinoceroses, including blood parasites, salmonellosis, and leptospirosis. With highly infectious diseases such as SARS, West Nile Virus, and Avian Influenza making worldwide headlines for crossing species and ecosystems, it is critical to get this historic move of the rarest rhinoceros right the first time. Dr. Khairani’s ongoing survey will focus on hemorrhagic septicemia, a bacterial disease linked to four recorded die-offs of Javan rhinoceroses in the region. Dr. Khairani will determine the prevalence, distribution, and risk of contracting septicemia faced by the buffalo population; conduct questionnaire-based interviews with buffalo owners to determine management factors that might contribute to the regional epidemiology of the disease; and propose possible interventions.

The project also involves outreach, educating local public health officers and villagers on septicemia diagnosis and management through hands-on training. It has also opened doors for Cornell veterinary students to gain valuable hands-on international experience, and several have already conducted internships in Indonesia with Dr. Khairani through Cornell’s Conservation Medicine Program with funding by Expanding Horizons.

“Knowledge of the region’s diseases will help veterinary officers improve the health of buffalo, a resource crucial to the region’s economic vitality,” said Dr. Khairani. “Healthier buffalo will enhance the well-being of local villagers while reducing their impact on the park. Improving our understanding of animal health in the area will help reduce the risk of disease transmission from livestock to rhinoceroses. This is essential to establishing a second habitat and population of the rare Javan rhinoceros, a crown jewel of Indonesia’s amazing biodiversity.”

The Cornell Conservation Medicine Program, a special initiative bridging academia and conservation, is generously supported by the College of Veterinary Medicine in partnership with a private foundation, the Tapeats Fund. The Javan Rhino Training Fellowship is funded by the Morris Animal Foundation.
conservation

medicine
International Insights

Cornell consults with Asian college to redefine veterinary care in Hong Kong

In a cross-continental collaboration, a proposal presented by Cornell’s College of Veterinary Medicine and the City University of Hong Kong (CityU) to establish the inaugural School of Veterinary Medicine in Hong Kong has been unanimously approved by CityU’s faculty senate and University Council. These approvals mark a major milestone for the Cornell/CityU collaboration designed to prepare future generations of veterinarians to provide life-giving veterinary care to animals in Hong Kong and support the global One Health initiative in Asia.

Since 2009, faculty and administrators from Cornell’s College of Veterinary Medicine have provided in-depth and ongoing advice and guidance to CityU in the planning, establishment, operation, and evaluation of the new School of Veterinary Medicine, with the goal of securing international accreditation in the future. The 10-year agreement between Cornell and CityU outlines provisions for Cornell to provide consultancy and assistance in the academic quality assurance needed for the School.

“Cornell University has a long history of innovation in veterinary medicine,” said Michael Kotlikoff, Cornell’s Austin O. Hooey Dean of Veterinary Medicine, noting that Cornell granted the first Doctor of Veterinary Medicine (DVM) degree in the United States in 1876 and the first DVM degree to an American woman in 1910. “We are proud to have the opportunity to assist an international partner in the development of a model program that will meet ever-increasing societal needs to protect animal health, relieve animal suffering, conserve livestock resources, promote public health and advance modern medical knowledge. This partnership has great potential to improve the quality of life for animals and people and shape the future direction of veterinary medicine.”

The School of Veterinary Medicine in Hong Kong will offer a Bachelor of Veterinary Medicine (BVM) degree, granted by CityU, with all courses taught in English. Plans are currently underway to begin instruction in the 2014-2015 academic year, with the goal of earning distinction as an internationally-accredited veterinary school and a center of excellence in veterinary medicine in Asia. The current plan is to house the School at new and renovated facilities on the CityU campus as well as leveraging other supporting farm and
large animal clinical facilities within the Hong Kong territory. The program also envisions the development of a food animal medicine clinic in mainland China, which would serve as a satellite teaching facility.

“Plans for the new School at CityU are guided by the global ideal of ‘One Health,’” said City University’s President, Professor Way Kuo, adding that as an international public health node, the School will have significant local and regional impact. “An important aspect of the School’s mission will be to emphasize the interconnectedness between human health and animal health. CityU is pleased to be working with Cornell and proud to be able to contribute to the global partnerships between the East and the West to raise the standard of veterinary medicine as our global responsibility. Through this initiative, Hong Kong and the region will be better able to manage and prevent both existing and emerging diseases originating from animals, thereby contributing to public health, food safety, and animal welfare in the region. The School will also act as a synergistic platform for inter-disciplinary research and collaborations involving life sciences with other disciplines, thereby enhancing CityU’s ability to tackle a broad range of strategically important issues.”

According to Kuo and Dr. Alfonso Torres of Cornell, the School’s vision is to set a high standard for public health, food safety, and animal welfare in Hong Kong. Another important objective is to strengthen the strategic role of Hong Kong’s higher education sector as an active agent of high-level knowledge transfer and international standard-setting to support the local and regional-industrial and professional services sectors for sustainable development and to reach out to the global market.

“The international collaboration is motivated by a growing awareness of the need to develop strong programs in veterinary public health as a response to the increasing global threats of zoonotic diseases and of outbreaks of food and water-borne diseases,” said Dr. Torres, the associate dean of public policy and former United States Chief Veterinarian. “The School will nurture a new culture of conservation and respect for animals and the environment, aligning itself with and supporting the growing global sustainability movement.”
Taking advantage of a feat that synthesized human and veterinary medical procedures and united cardiologists from two continents and four medical institutions, a 2-year-old Brittany spaniel has a new outlook on life, renewed energy and an insatiable appetite.

Jay, the spaniel, arrived at Cornell’s Hospital for Animals (CUHA) as an emergency patient with a heart rate of 380 beats per minute. His medical history revealed an ongoing battle with cardiac arrhythmias (abnormal heart beats) and symptoms that suggested congestive heart failure. Dr. Freddie Brewer, a cardiology veterinary resident, slowed Jay’s heart rate to a normal sinus rhythm with medication and released him the following morning with a note of caution: Jay’s type of arrhythmia could be difficult to control. A week later, Jay returned to Cornell.

“The medical treatment was going to have limited success in treating this arrhythmia, known as a bypass-tract tachycardia,” said Dr. N. Sydney Moise, chief of cardiology at CUHA. “We suggested to the owners a procedure that could potentially cure the life-threatening arrhythmia.”

In the proposed procedure, called an ablation, the cardiologist would use a special catheter to deliver energy that creates controlled lesions on the heart and ultimately focal scar tissue. This eliminates the abnormal pathway of electrical conduction and permits only the normal conduction. The specific abnormal pathway that caused Jay’s heart to beat too fast had never been successfully ablated before.
Jay’s only chance, according to Dr. Moise, was a team approach—an all-hands-on-deck spirit—and equipment that was pieced together and borrowed from a Katrina-flooded hospital, Weill Cornell Medical College, and corporate partners.

“We divided the labor, with each of us having a designated role,” said Dr. Moise, indicating that this is now a jointly offered service at Cornell and Louisiana State University (LSU), the only university veterinary hospitals to provide the service. “None of us could have done it alone.”

The team included:

• Dr. Pramod Deshmukh, a cardiologist who practices in Sayre, Pa., assisted during the electrophysiologic testing and ablation;

• Dr. Roberto Santilli, a veterinary cardiologist in Samarate, Varese, Italy, with experience performing this procedure in dogs in Europe, who mapped Jay’s heart with a catheter, millimeter by millimeter, to find the area that needed to be ablated;

• Dr. Romain Pariaut of LSU’s School of Veterinary Medicine and a former veterinary resident in cardiology at Cornell, who provided LSU equipment and operated the stimulator to test the heart during the procedure;

• Dr. Moise, who orchestrated the team effort and guided Dr. Brewer in the catheter placement during the procedure;

• Dr. Bruce Kornreich, a Cornell veterinary cardiologist and electrophysiologist, who worked with Jason Cole from BioPac to ensure that the diagnostic intracardiac recordings were pristine during the procedure;

• Drs. Robin Gleed and Monique Pare, veterinary anesthesiologists, who kept Jay safely anesthetized and monitored vital signs during the procedure;

• Cornell veterinary cardiology technicians Shari Hemsley and Sarah Miller, who ensured that the details of catheters and supplies were ready at a moment’s notice.

Now active and alert, Jay has gained three pounds and his beating heart is no longer racing.

“It takes a lot of energy for a heart to beat as fast as Jay’s was,” said Dr. Moise. “Every morsel of food he ate was going toward that end. Now, when he eats, he’s nourishing his body. This is one of the very special procedures we do in that it’s novel and curative. Jay came to us as a very young dog. I fully expect that he’ll live a long and healthy life.”
January 14 marked the first birthday of Cornell University Veterinary Specialists (CUVS), the College of Veterinary Medicine’s satellite referral and emergency hospital in Stamford, CT. In less than a year, CUVS has served the medical needs of more than 2,500 animals referred from over 400 veterinarians across the region for advanced diagnostics and treatment in emergency and critical care, cardiology, internal medicine, orthopedic and soft tissue surgery, and oncology.
As collaborations and caseloads continue to grow, CUVS, the nation’s largest university-affiliated veterinary center, is broadening its impact on pet owners and the veterinary community across the Northeast with multiple educational initiatives.

“CUVS has become a leading veterinary referral center in the NY metropolitan area,” said Dean Michael Kotlikoff. “As a College we are engaging in academic referral medicine in the same way that the strongest medical colleges’ academic medical centers lead human medicine. In the absence of an academic footprint in the NY metropolitan area, we have added a previously unavailable option to access specialty services and continuing education.”

Monthly continuing education lectures for area veterinarians, held in the center’s 45-seat classroom, enable practitioners to stay up-to-date on important clinical topics while earning nationally-approved professional credits. Regularly held education sessions for local pet owners, led by CUVS specialists, have covered topics as diverse as pet adoption, first-aid, and geriatric care. Partnering with Mercy College’s programs in veterinary technology, CUVS also offers frequent labs, lectures, and clinical externships for students and professional technicians.

In Fall 2011 CUVS held its first all-day continuing education event for referring veterinarians. More than 100 veterinarians attended the sold-out program entitled The First 24 Hours: A Multifaceted Approach to the Emergency Patient at the Hyatt Regency in Old Greenwich, CT. Faculty members from the College of Veterinary Medicine in Ithaca joined the Stamford specialists to lecture on a range of topics in emergency medicine and guide labs that offered hands-on experience.

Veterinarians choosing the CPR lab practiced resuscitating a robotic virtual dog under the guidance of its creator, Dr. Daniel Fletcher, assistant professor in the section of emergency and critical care. Dr. Margret Thompson, section chief of imaging at the Cornell University Hospital for Animals, led the computer-based laboratory in emergency radiology of the thorax and abdomen.

“Feedback from attendees was very positive, and we all enjoyed meeting local veterinarians face-to-face,” said Dr. Susan Hackner, Chief Medical Officer of CUVS and a double-boarded specialist in Internal Medicine and Emergency & Critical Care. “The veterinary field is a small community, and we do refer cases back and forth, but we don’t often get a chance to meet as a group to get to know each other. Putting faces to names helps us forge stronger bonds with our referring veterinarians, and we look forward to holding more events like this.”

Educational opportunities at CUVS are also available to Cornell’s veterinary students, who are eligible to complete observational externship rotations at the specialty referral center. In addition, collaborations between faculty at the College and veterinarians at CUVS are strong.

“The College’s faculty help read our imaging studies, and College clinicians have used our services for consulting,” said Dr. Hackner. “Dr. Meg Thompson is training us to get the most out of CT scanning, and we are working with Dr. Wakshlag in nutrition to open CUVS to nutrition resident rotations. Dr. Marta Castelhano has helped us to set up an active research site collecting samples for the College’s nationally recognized DNA Bank. We look forward to further deepening these collaborations.”

Quick facts

- An advanced diagnostics and treatment center for pets with serious or emergency health issues
- Specialty referrals and 24/7 emergency and critical care
- Six specialists, two part-time specialists, three emergency veterinarians
- Specialties include emergency & critical care, orthopedic and soft-tissue surgery, internal medicine, cardiology, oncology, and a recently added ophthalmology service
- 20,000-square-foot facilities include: Intensive care unit; emergency room; three surgery suites with interventional radiology and fluoroscopy; imaging suites with CT scanner, digital radiology, echocardiography, ultrasound; 45-seat classroom auditorium; onsite apartment for visiting faculty and externs
- Visit www.cuvs.org to learn more
Dr. David Russell has been named the William Kaplan Professor of Infection Biology. The endowed professorship is made possible through the estate of veterinarian Dr. William Kaplan, who was a 1946 graduate of Cornell’s College of Veterinary Medicine and had a distinguished career as a medical mycologist with the Centers for Disease Control and Prevention in Atlanta.

“Endowed professorships are established as a special way to recognize individuals of distinction, people who are pioneers in knowledge creation and who challenge conventional thinking in ways that inspire innovation,” said Michael Kotlikoff, Austin O. Hoey Dean of Veterinary Medicine. “Dr. Russell is a superior example of re-imagining our approach to solving problems, a characteristic that permits Cornell to advance research that improves the quality of life in communities across the state and around the world. We are most grateful to Dr. Kaplan’s far-sightedness in supporting the College and this important area of research.”

In addition to his work with the Centers for Disease Control and Prevention, Kaplan was also an associate professor at both the University of North Carolina at Chapel Hill and Georgia State University. A diplomate of the American College of Laboratory Animal Medicine and the American Board of Medical Microbiology, he was known for his expertise in fungal histopathology and the diagnosis of a variety of infections.

“I find a great deal of encouragement in the University’s and College’s decision to establish the William Kaplan Professorship, a position that will forever recognize the importance of infectious disease research to this Institution,” said Dr. Russell, who is a professor in the Department of Microbiology and Immunology in the College of Veterinary Medicine. “It is through this focused scientific investigation that we will better understand the complex relationships between hosts and pathogens, knowledge that is essential if we are to design better vaccines and drugs capable of fighting human and animal diseases.”

Dr. Russell has dedicated his career to doing just that. In research that spans three continents, he aims to discover drugs to treat disease in people with pulmonary tuberculosis (TB), sometimes in conjunction with human immunodeficiency virus (HIV). This work has taken him to Malawi, where he works with collaborators from the University of Massachusetts, the College of Medicine in Malawi, and the Liverpool School of Tropical Medicine, to study macrophages, white blood cells within tissues that eat bacteria and, Dr. Russell says, are the key to treating TB.

His work focuses on the development of new approaches to combat TB in the macrophage. Dr. Russell and his team have formed a collaboration with the biotechnology company Vertex Pharmaceuticals and performed a high-throughput screen to identify small molecules that kill the bacterium within the macrophage. These molecules have potential as lead compounds for future drug development.
When their dog, Buzz, faced a life-threatening condition in October 2009, Richard and Stacy Hoffman drove their Scottish terrier six hours from Maryland to Cornell University Hospital for Animals, where a timely surgery saved his life. The Hoffmans are pictured here with daughter Alexandra CALS ’12 holding Buzz.

Their experience inspired several donations to the Companion Animal Hospital, and as strong supporters of animal welfare they were keen to learn more about the College’s commitment to animal care. The Hoffmans oversee a family foundation that funds projects supporting otherwise overlooked wildlife. When they took a tour of Cornell’s Janet L. Swanson Wildlife Health Center, which provides hospitalization and medical care to sick or injured wild animals brought in by the public with the goal of releasing them back to their original habitat, they knew they had found a match.

“Some wildlife species get a lot of attention while others that might not be quite as ‘sexy’ fall under the radar,” said Richard Hoffman. “It’s important to us and to Earth’s ecosystems that species don’t dwindle because no one noticed or cared. We took a tour of the Center and saw the work they do helping local wildlife and training students who could someday translate that experience to a greater scale, and we wanted to give something tangible to help.”

Through a gift from their foundation, the Hoffmans helped the Center purchase four pieces of imaging equipment that will provide invaluable diagnosis and treatment options for the animals treated at the Center while simultaneously building a multimedia library usable for teaching and research in wildlife medicine.

“The biggest new piece is an endogo®HD, a totally portable, wireless, high-definition endoscopic imaging platform that can record, store, and play back images and videos taken from inside an animal’s body, making it particularly useful for diagnosis and teaching,” said Dr. George Kollias, Jay Hyman Professor of Wildlife Medicine and Chief of the Center. “We also purchased a small-diameter rigid endoscope for birds and small mammals that allows veterinarians to use surgical instruments to take biopsies, retrieve ingested foreign bodies, and conduct minimally invasive surgeries.”

For their tiniest patients, the Center purchased a fully functional miniature endoscope. Finally, all endoscopes were updated with new, more powerful light sources.

“We use this technology to help diagnose and treat wildlife when laboratory tests and other diagnostics don’t provide definitive answers,” said Dr. Kollias. “It lets us use minimally invasive techniques to visualize the organ surfaces and to take tissue samples of organs or tissues safely. The equipment is also particularly useful in species for which there is little or no published clinical laboratory data or disease description.”

The Hoffmans hope their gift will help veterinarians, students, and researchers find ways to prevent future problems in wildlife and promote research to help wildlife.
Class of 1944
Carlisle Van Deusen, DVM
North Bangor, NY
Dr. Carlisle Van Deusen was honored for his many years of service on the Board of Directors for the Franklin County Agricultural Society at the 161st Franklin County Agricultural Fair. Dr. Van Deusen, who turned 90 in September, is one of the most respected veterinarians in the region and served as Parade Marshal for the Home Town Parade on August 11, 2011. “I’m kind of excited when you think about it,” he said. “It’s a great honor to be made a parade marshal, and I was glad to accept the job.”

Class of 1957
Anthony Palminteri, DVM
Paramus, NJ
Dr. Anthony Palminteri was featured in the October 6, 2011, edition of Town News (Ridgewood, NJ). “Keeping your pets in prime health,” he said. “We pride ourselves on providing exceptional service.”

Class of 1961
Merritt Wooding, DVM
Blairstown, NJ
Dr. Merritt Wooding was featured in The Warren Reporter (Hackettstown, NJ). “Long-time veterinarian reflects on half-century of service,” he said. “I feel very lucky to have had the opportunity to work with such amazing clients.”

Class of 1972
James C. Krepp, DVM
Fayetteville, NC
Dr. Jim Krepp, who’s helped heal every critter from hamsters to hounds and bobcats to bears, is retiring after 40 years — 30 of them at the Cape Fear Animal Hospital.

Class of 1977
Mark Helfat, DVM
Mount Laurel, NJ
Dr. Mark P. Helfat, a mixed-animal practitioner from Lumberton, NJ, began a six-year term as the new District II director at the July Executive Board meeting of the American Veterinary Medical Association (AVMA). “It’s both humbling and an honor to be elected to the Executive Board of the AVMA,” says Dr. Helfat. “This is a challenging time for veterinary medicine. I look forward to the coming six years and to working with our members, colleagues, and partners to help ensure the future of our beloved profession, veterinary education, and the AVMA.”

Class of 1979
Mitchell Kornet, DVM
Hicksville, NY
Along with abundant sunshine, the spirit of giving filled the air as Mid Island Animal Hospital celebrated its 50th anniversary with Be Kind to Animals Day. The charity event was held on June 18, at the hospital on Old Country Road in Hicksville. More than $10,000, divided among six animal organizations, was donated by Mid Island Animal Hospital. The donations were made by the hospital in honor of or in memory of patients past and present. Dr. Kornet stated, “We wanted to hold a meaningful event with a long lasting impact for our 50th anniversary. Over the years we have seen the love between pets and their owners grow. Veterinarians not only understand this bond, we feel it too.” During the event, Dr. Kornet was presented with a Proclamation of Outstanding Service to the Community.

Class of 1983
Faith Krausman, DVM
Montclair, NJ
Dr. Krausman was featured in the December 2011 issue of Inside Jersey, a Star-Ledger Magazine, “Doctors in the Dog House: Veterinarians go mobile to treat all creatures great and small.” Dr. Krausman is one of approximately 124 mobile veterinarians providing in-home treatment for animals in the Garden State, according to the New Jersey Veterinary Medical Association. She has been treating pets in their homes since the early ‘90s. Her first visit was with a dog suffering from an ear infection, and since then she’s treated dogs, cats, and smaller animals, such as guinea pigs and ferrets, in homes, assisted living facilities, and even a Petco store. She also has expanded her service area north to Nyack, NY, south to Edison and west to the Morristown, Basking Ridge, and Gillette areas.

Class of 1984
Peter Osturm, DVM
Lowville, NY
Dr. Peter Osturm is featured in “Veterinarians on Call.” This new online show documents the work of real livestock veterinarians. Visit: http://www.youtube.com/VeterinariansOnCall

Class of 1985
Carrie Caccamise, DVM
Batavia, NY
Dr. Carrie Caccamise joins the faculty at Geneseo Community College as assistant director of the Veterinary Technology Program. Dr. Caccamise has worked for more than 25 years in private practice and served as a member of the adjunct faculty at Geneseo last year.

Class of 1986
Michael Schafer, DVM
York, ME
Sunday, January 27, 2011, Dr. Schafer ran and completed an Ironman Triathlon in Cozumel, Mexico, which consisted of a 2.4-mile swim, a 66.2-mile bike ride, and a 26.2-mile run (a marathon) and a 112-mile bike ride. He completed it in just 13 hours and 22 seconds. Mike owns a practice in Rye, NH, and one in Kittery, ME.
Class of 1999
Sara Childs-Sanford, DVM
Liverpool, NY
Dr. Sara Childs-Sanford has joined the health-care team at Liverpool Animal Health Center at 8320 Oswego Road in Liverpool, NY. Following a one-year internship at the Regional Veterinary Referral Center in Springfield, VA, Dr. Childs-Sanford practiced small-animal emergency and critical-care medicine and surgery at the Anne Arundel Vet- erinary Emergency Clinic in Annapolis, MD. In 2005, she completed a three- year residency in wildlife and zoological medicine at Cornell, as well as a master’s degree in animal nutrition from the University of Maryland at College Park.

Class of 2002
David Crum, DVM
Candice Flynn, DVM
Fairfax, VA
Alexander Michael Crum was born on Thursday, November 17, 2011, at 7 pounds 13 ounces and 21.5 inches long to Candice Flynn and David Crum. They are living in Fairfax, VA. Candice is working for Columbia Pike Animal Hospital in Annandale, VA, and David is working at Stahl Exotic Animal Vet- erinary Services in Fairfax, VA. Should you want to get in touch with the happy parents they can be reached at dscrum35@hotmail.com

Class of 2003
Amy Johnson, DVM, DACVIM
Kennett Square, PA
Amy Johnson was appointed to the faculty of New Bolton Center as assis- tant professor in large animal internal medicine and neurology. New Bolton Center is University of Pennsylvania School of Veterinary Medicine’s large animal campus located in Kennett Square, PA. As a neurologist, Dr. Johnson will focus on diseases affect- ing the nervous system and related diseases such as wobbler syndrome, equine herpes, West Nile virus, rabies, protozoal myeloneuropathies and other neurologic diseases to which horses as well as camellids and food animals are susceptible.

Dr. Johnson has been a clinician and lecturer at New Bolton Center, which holds as part of its mission the education of veterinary students, since 2008. During this time she also com- pleted a non-traditional residency pro- gram in neurology and will become one of only three large animal veterinarians in the world to be board-certified in both internal medicine and neurology.

Gary Atthowe, DVM, PhD and chair of clinical studies at New Bolton Center, characterizes Dr. Johnson as a sea- soned academic clinician and teacher. “As both an internist and neurologist, her expertise will be unparalleled. As both an internist and neurologist, her expertise will be unparalleled. We are so excited to have Dr. Johnson join our team,” said Dr. Meleleo. “Most people who have pets are interested in that sort of thing, and they follow it closely.”

Class of 2010
Erin Morgan, DVM
New Berlin, NY
Dr. Erin Morgan has joined Leather- stockington Veterinary Services as an associate veterinarian (www.leatherstockingvet.com). Following veterinary school, Dr. Morgan completed a Large Animal Medicine and Surgery Intern- ship at the Ontario Veterinary College in Guelph, Ontario. Dr. Morgan has a particular interest in equine lameness, rehabilitation, and surgery. Dr. Mor- gan will also be seeing small animal patients two days per week at Pittsfield Veterinary Clinic.

Class of 2011
Jessica Balter, DVM
Seaford, NY
Jessica Balter was awarded the “Winne” Feline Foundation of Hillsborough, NJ, and the American Veterinary Medical Foundation (AVMF) join together annually to present two awards designed to promote and encourage feline health studies by both established veterinary research scientists and by those entering this field of study.

The “Winne” and $2,500 cash are awarded to a distinguished researcher in feline medicine who is selected by the AVMF and a matching cash award from the AVMF is given to an applicant who is selected by Winn.

Dr. Balter says, “I hope to build a strong foundation of medical knowledge which I can use to guide me through the unique aspects of shelter medicine while simultaneously advancing the treatment of shelter animals.”

Having lived with many rescue cats in his family, Dr. Balter feels that a strong appreciation of the behavioral needs of cats and a keen appreciation of the need for specialists dedicated to feline medicine.

Dr. Balter will be completing a year-long, small animal rotating internship at BrightHeart Veteri- nary Referral and Emergency Center, a specialty hospital on Long Island, NY.

IN MEMORIAM

SINCE THE LAST ISSUE OF ‘SCOPES, THE COLLEGE HAS BEEN NOTIFIED OF THE PASSINGS OF THE FOLLOWING:

Dr. John S. Baker ’51, August 20, 2011
Dr. Bradford B. Brown ’56, December 2, 2011
Dr. Julius Fabricant, Emeritus professor, November 11, 2011
Dr. Mark J. Gerard ’58, June 14, 2011
Dr. David B. Hammond ’65, September 26, 2011
Dr. Jerome B. Higgins ’65, August 14, 2011
Dr. John B. Jeffers ’57, October 11, 2011
Dr. Robert Miller Lewis, Emeritus professor, August 18, 2011
Dr. Grace K. Loomis ’42, May 22, 2011
Dr. Eric W. Mendel ’59, May 3, 2011
Dr. Joseph J. Merenda ’34, July 13, 2011
Dr. Colin M. Robertson ’43, September 13, 2011
Dr. Joseph H. Robbins ’53, November 2, 2011
Dr. Charles R. Robinson ’44, December 10, 2010
Dr. Ralph R. Romo MS ’42, August 2, 2011
Dr. Harry S. Russell ’58, May 28, 2011
Dr. Carl L. Schenholm ’46, August 5, 2011
Dr. Robert Squire ’56, May 27, 2011
Dr. Abram J. Zehr ’60, March 14, 2011
We will include Class Notes in the July 2012 issue of 'Scopes Magazine. Please let us know what you'd like to share with your classmates in our Class Notes section by April 30, 2012, for inclusion.

SHARE YOUR NEWS

NAME (MAIDEN IF APPROPRIATE) CLASS YEAR

ADDRESS

EMAIL PHONE

Please tell my classmates that...


PLEASE RETURN TO: Cornell University, College of Veterinary Medicine, Box 39, Ithaca, NY 14853. Alternatively, share your information with us via email (vetfriends@cornell.edu) or complete the online form at www.vet.cornell.edu/alumni/ClassNotes.

Wearing the White: Members of the Class of 2013 received their white coats in December.
Blocks of rooms have been reserved at these hotels. (Be sure to mention that you are with the College of Veterinary Medicine and your DVM class year.)

**Best Western:** 607-272-6100 or 800-937-8376
www.bestwesternuniversityinnithaca.com

**Comfort Inn:** 607-272-0100
www.comfortinn.com/hotel/ny199

**Econo Lodge:** 607-257-1400
www.econolodge.com/hotel/ny127

**Hampton Inn:** 607-277-5500
www.ithaca.hamptoninn.com

**Holiday Inn:** 607-272-0006 or 800-315-2621
www.hiithaca.com

**Ramada Inn:** 607-257-3100
www.ramadainnithaca.com

**Super 8:** 607-273-8088
www.super8.com

**On Campus Housing:** Cascadilla Hall
Call Paul Aiken (AA&D office): 607-253-3716

FOR REAL-TIME UPDATES:
www.vet.cornell.edu/alumni/reunion
SAVE THE DATE
SEPTEMBER 27 - 30, 2012
www.vet.cornell.edu/nysvc

MULTI-SPECIES
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