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#### **'SCOPES ANNUAL REPORT 2015**

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'Scopes is your source for news from the College of Veterinary Medicine at Cornell University. The magazine is published three times annually, with the fall issue serving as the annual report. To change your address, please call 607-253-3745 or email vetfriends@cornell.edu.

Diversity and Inclusion are a part of Cornell University's heritage. We are a recognized employer and educator valuing AA/EEO, Protected Veterans, and Individuals with Disabilities. Produced by Cornell University 11/15 EL 7.1M



## 'SCOPES

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COVER: POGO, A RESCUE DOG, HELD BY MADDIE'S™ SHELTER MEDICINE PROGRAM CLINICIAN DR. HOLLY PUTNAM.

## FOUNDATIONS FOR THE FUTURE

Dr. Lorin Warnick, Interim Dean of Veterinary Medicine



"I AM HONORED TO SERVE AS INTERIM
DEAN AND LOOK FORWARD TO WORKING
WITH FACULTY, STAFF, STUDENTS, ALUMNI
AND FRIENDS OF THE COLLEGE TO ENSURE
SUCCESS OF OUR PROGRAMS."

his past year has been full of change and transitions, and with that comes new opportunities. As interim dean, I am taking the reins from Dr. Mike Kotlikoff, who was appointed as provost of Cornell University on August 1st. It is exciting for us as a College and the profession to have a veterinarian and our former dean serve in this important role at Cornell. I am honored to serve as interim dean and look forward to working with faculty, staff, students, alumni and friends of the College to ensure success of our programs. My first priority will be to provide continuity for our many ongoing initiatives ranging from construction here on the Ithaca campus to our off-campus clinical facilities and international collaborations. As we continue to see these endeavors through to completion, we'll also be capitalizing on new opportunities as they arise.

We have several near-term priorities: one is our wellness initiative, which follows a nationwide effort to put the mental, emotional, and physical health of veterinarians and veterinary students into focus. Our office of student and academic services has a well-established history of student wellness activities, headed by our Director of Student Services, Dr. Jai Sweet. Additionally, Student Chapter of the American Veterinary Medical Association (SCAVMA) members Michelle Forella '17 and Kaitlyn Briggs '17 are using grant funding to promote student wellness. Other students and staff are working to identify needs and problem areas and make changes to better prepare students for the rigors of veterinary education and their future careers while removing unnecessary roadblocks within the education program.

Another point of focus will be on our DVM education program, which has always been at the heart of the College's excellence. We increased our educational emphasis on surgical skills through our new primary care surgery rotation led by Dr. Jay Harvey. This allows third and fourth year students greater exposure to surgery, particularly spaying and neutering shelter and rescue dogs, providing both valuable experience to students and a service to shelters and rescue organizations in the region. We are also in the planning stages for a new facility to house our community practice service which provides primary care medical and surgery services for companion animals. The facility will be located near the current hospital and will provide a student experience more typical of a private practice setting.

In addition to preparing our students for clinical work, we will also be strengthening their know-how in personal finances and business management. Our student chapter of the Veterinary Business Management Association (VBMA) is dedicated to increasing our students' business knowledge and networking opportunities, while our curriculum also incorporates new

coursework on personal finance, career development and veterinary business practice management skills.

We plan to continue augmenting our collaborations across the campus and the globe. Our faculty participated with colleagues from across campus to organize the Dairy Center of Excellence. This new center draws from our own faculty's knowledge in dairy cattle health and management, and unites it with that of other dairy production and operation experts in the College of Agriculture and Life Sciences to provide expertise to industry, government and the public. The Progressive Assessment of Therapeutics program, (P.A.Th.) links College scientists (including Drs. Kristy Richards, Robert Weiss, and John Schimenti) with Weill Cornell Medicine cancer researchers to catalyze the development of cutting-edge cancer therapies. Our Center for Reproductive Genomics, which recently received a P50 specialized research center grant from the NIH, links the foundational research done by College scientists such as Dr. Paula Cohen with Cornell University colleagues, partnering it with Weill Cornell researchers who specialize in applied work in fertility, urology, and human reproduction.

On the international front, we continue to collaborate with the City University of Hong Kong in developing the first school of veterinary medicine in the region. We are also contributing to wildlife and animal health internationally through efforts such as Dr. Robin Radcliffe's Engaged Cornell grant to support the Cornell Conservation Medicine Program in collaboration with Dr. Jane Goodall. Finally, our Center for Animal and Public Health will continue to expand the reach of our clinical and research expertise into developing countries with the goal of furthering conservation and public health.

I'd like to finish with a brief word about the issue you're looking at now. Every fall, we publish an annual report within the pages of 'Scopes; this year, we've expanded that report to the entire magazine to give our readers an overview of every part of the College, from our DVM program to our academic departments, to our outreach efforts and beyond. Here, you'll see the highlights and key statistics about each department. Of course, the examples you read in this magazine provide only snapshots—not the full spectrum of what our institution offers. Our hope is to give an overview of what we do, and how well we're doing it. If you're like me, you'll come away impressed with the breadth and depth of the Cornell University College of Veterinary Medicine.

Lorin D. Warnish

# KOTLIKOFF: THE VETERINARY COLLEGE VISIONARY

hen Michael I. Kotlikoff was named provost for Cornell University, it came as little surprise to those who knew him well. As Austin O. Hooey Dean of the College of Veterinary Medicine, Kotlikoff had a well-established reputation as a leader and innovator. Indeed, it seemed to be the logical next step for a man who had earned the trust and respect of a College community even while challenging it to adapt to

"He has vision and foresight—he's not afraid to take risks," says Interim Dean Lorin Warnick.

changing times and embark on ambitious new ventures.

"When you talk, he makes you feel important and useful," says Dr. Susan Fubini, associate dean for academic affairs, "and that's probably the most important quality you can have as a leader."



KOTLIKOFF AS DEPARTMENT CHAIR OF BIOMEDICAL SCIENCES

2007

KOTLIKOFF ATTENDS A STUDENT-RUN HEALTHY PET CLINIC AT THE SOUTHSIDE COMMUNITY CENTER 2011

KOTLIKOFF SPEARHEADS FOUNDING OF CORNELL UNIVERSITY VETERINARY SPECIALISTS







# "HE HELPED EVERYONE RECOGNIZE THE VALUE OF THE BREADTH AND DEPTH OF THE COLLEGE, AND MADE SURE EACH GROUP WAS VALUED."—Interim Dean Warnick

#### **SECURING THE FUTURE**

Kotlikoff became dean of the College in 2007, when the global economy was on the brink of a tailspin and both Cornell and the Veterinary College faced serious budgetary challenges. At the same time, College facilities—most dating back to 1957—were in sore need of updating. The recession had dried up funding from all sources—New York State, for example had fiscal problems of its own, and further reduced support for higher education.

The new dean decided to think big anyway. "I was attracted to the challenges of how to replace the lost funding from the State, and communicate a vision of how we address and secure the future," says Kotlikoff. "While these were big challenges, they were also the most rewarding aspects of the job—and it's something I look back on with a degree of accomplishment."

Under Kotlikoff's leadership, the College embarked on a \$63 million capital project to accommodate an increase in preclinical class size, from 89 students in 2007 to 120 students in 2017, and update teaching and research facilities and community spaces. The project attracted additional State operational funds, along with millions of dollars in naming gifts and commitments.

Kotlikoff also spearheaded the launch of two satellite operations from the Ithaca-based Cornell University Hospital for Animals (CUHA): Cornell University Veterinary Specialists (CUVS) in Stamford, Conn. and Cornell Ruffian Equine Specialists (CRES) on Long Island. "These two initiatives had different objectives," says Cornell's Vice President for Budget and Planning Paul Streeter, who worked with Kotlikoff as former assistant

dean of finance and administration at the College. "With CUVS, the goal was to set a model as an industry standard in terms of quality care, while also meeting the financial goal of supporting the College. With CRES, the goal was to maintain the College's relevance in the equine industry, to attract top equine people. He was willing to take measured risks on these ventures, for two strategically different reasons."

Both investments are on a path of success, with CUVS seeing record growth in its fifth year of operation and CRES experiencing strong growth in caseload in its second year. "Mike set clear expectations and he gave those responsible room and flexibility in the implementation," says Streeter. "I think this inspired the rest of us involved to do what was needed to accomplish the goal without losing sight of the overall objectives."

The College expanded its influence across the globe when Kotlikoff initiated a partnership with City University of Hong Kong to create the first school of veterinary medicine in Asia that is modeled after the US approach to veterinary education.

"It was always important to ensure that people felt they were part of a vision, and bought into it as participant," says Kotlikoff of his efforts to lead the College towards securing its future. "It's a necessary step in achieving anything—but especially in academia, where everyone is an independent actor. So part of that is convincing people that you're part of the effort, too, and you're working as hard as they are."

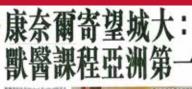
2012

COLLEGE FORGES HONG KONG VETERINARY EDUCATION PARTNERSHIP 2013

COMMENCEMENT: KOTLIKOFF SPEAKS AT THE HOODING CEREMONY

2014

CORNELL RUFFIAN EQUINE SPECIALISTS IS LAUNCHED









#### **BREADTH AND DEPTH**

Those who worked with Kotlikoff during those years say his success is due to a combination of personal and professional qualities. One vital element was transparency in decision-making. "He took some very good steps in opening up information about the College budget and financial decisions," says Warnick. "He also really recognized the full spectrum of what the College does. He helped everyone recognize the value of the breadth and depth of the College, and made sure each group was valued."

Kotlikoff's background was filled with opportunities to learn and grow. He attended a small Quaker high school and studied literature as an undergrad at the University of Pennsylvania. "A humanities education is an outstanding foundation to start with," says Kotlikoff. "Studying literature requires you to read, analyze, and write—and that's what you end up doing over and over again in the sciences." He put those skills into practice at Penn's veterinary medicine program; when pursuing his PhD in physiology at the University of California, Davis; during his postdoctoral degree in the College of Medicine at Penn; and as a member of the faculty and chair of Penn's Department of Animal Biology.

Trained to be a scientist, Kotlikoff continued his research during his deanship and will do so even as provost. His focus is on the cell precursors underlying heart repair and the molecular signals that underlie vascular control. His lab has shown that transplanted stem cells can make electrical connections with normal heart cells if they express certain molecules, and has

produced numerous mouse lines that enable researchers to detect signals communicated between cells under in vivo conditions. "As a scientist, he is continually thinking of ideas, and pushes his lab to make progress while at the same time giving us a lot of independence," says Jane Lee, research support specialist in the Kotlikoff laboratory.

The new provost attributes his leadership style to his Quaker-based education. "They believe in a consensus-style of government," he says. "So there's that need to engage all members of the community—that was drilled into me early on."

It has served him well in connecting with College faculty and staff, and with alumni as well. "Mike would go to every

"WHILE THESE WERE BIG CHALLENGES, THEY WERE ALSO THE MOST REWARDING ASPECTS OF THE JOB—AND IT'S SOMETHING I LOOK BACK ON WITH A DEGREE OF ACCOMPLISHMENT." —DR. MICHAEL KOTLIKOFF reunion dinner and get in every age group and be completely comfortable," says Fubini. "It was quite extraordinary." 2014

KOTLIKOFF DOES THE ALS ICE BUCKET CHALLENGE

2014

PRECLINICAL CLASS EXPANSION PROJECT IS LAUNCHED

2015

PROVOST MICHAEL KOTLIKOFF TOURS
THE CORNELL NANOSCALE FACILITY







#### **WARMTH AND WIT**

Kotlikoff also connects well with those outside of the College. George Goldner, a donor recognized for his generous gift to the Nemo Farm Animal Hospital, speaks fondly of the former dean. "When our pig, Nemo, was being treated at Cornell I asked the resident taking care of him if anyone came to visit. She said, 'Well to tell you the truth, this afternoon I spotted the dean of the veterinary school striding surreptitiously towards the farm animal hospital carrying a large watermelon under his arm'," says Goldner. "This is the kind of compassion and care that Mike Kotlikoff brought to his position, which together with his tremendous intelligence, knowledge, and enthusiasm made him a great leader of the veterinary school."

Among Kotlikoff's greatest assets is his wife, Dr. Carolyn McDaniel, who teaches introductory courses at the college. "She's a huge addition to the school—she's become a beloved instructor, so the combination of the two of them was just powerful," says Alison Smith, major gifts officer with the College's Office of Alumni Affairs and Development.

"I love seeing [Mike] and Carolyn together, goofing around and having fun," says Jane Lee. "Their love and commitment to each other is obvious."

Kotlikoff's tenure was also marked by morale-boosting events and activities, including the student-faculty hockey and basketball games, half-time shows, and ice-bucket challenges.

Smith recalls an incident during Kotlikoff's first days as head of the College that set the tone for his deanship. "He sent out a picture of himself with a surprised-looking dog at the healthy pet clinic, and asked for a caption contest from the whole community. The winning caption was something like 'do you even know where my anal sacs are?'



"It was funny," Smith says. "It was clear he's very secure in who he is. He's able to laugh at himself."

Fubini also attests to the former dean's sharp sense of humor, noting his knack for a well-timed witty remark. "As a friend he's clever, he's funny," she says. "He's also thoughtful." She recalls the moment when Kotlikoff asked her to serve as associate dean for academic affairs. "When he did ask me to serve, I told him 'That's not going to work. I don't have the sophistication, I don't have the research credentials, and I certainly don't have the wardrobe,' and he said, 'Well, I've got all three of those, so we're good.' It was clear that he had my back."

Kotlikoff also had his quirks. Assistant to the Dean Pat Janhonen tells stories of misplaced laptops and car keys, along with many a parking and speeding ticket. "Upon returning to the office he would give me that innocent smile and ask if I could 'take care of it'," she says. "It was nice to have a boss who has that much confidence in you."



#### **NEW CHALLENGES, FOND MEMORIES**

Now that Kotlikoff has moved from the top of Tower Road to Day Hall, he begins an even higher-profile chapter in his career. With the new title comes bigger stakes and broader responsibilities. The new provost seems to be taking it in stride. "In some ways I find it's a similar challenge to becoming dean of the Veterinary College.

"Cornell is an extraordinary university—it's one of the broadest institutions that exists, with excellence all throughout," says Kotlikoff. "So the challenge will be pulling it together, thinking about strategies and directions, motivating people, and giving individuals a sense of our institutional priorities. That's my first goal." Beyond that, he plans to focus on Cornell's impact beyond Ithaca, both in New York City and globally, "and how to do that effectively through our extension and outreach efforts both state-wide and internationally. To both extend and strengthen that impact is another key goal."

His friends and colleagues confirm that he'll be up to the task. "Mike can shift gears seamlessly, and get an immediate grasp of what's going on in a new situation," says Fubini. "He's able to gauge and interact with different audiences in the same evening and be totally comfortable in each of those settings. It's really quite remarkable. And, at the end of the day, he truly wants what's best for Cornell, and for the world. I really believe that to be true."

"He's the obvious choice," says Alison Smith. "He accomplished what he went in to do here at the College. He's tenacious—that's a quality that comes in handy as provost."

"AT THE END OF THE DAY, HE TRULY WANTS WHAT'S BEST FOR CORNELL, AND FOR THE WORLD."

—DR. SUSAN FUBINI





ANNUAL REPORT 2015



#### **WORKING ON WELLNESS**

Finding a balance between the demands of life and veterinary school can be challenging; that's why the College is making student wellness a top priority. "We take a comprehensive approach to our students' well-being," says Dr. Jai Sweet, director of student services and multicultural affairs. "We address financial, physical, and emotional well-being—identifying points of stress, and organizing activities that can help during those periods." Initiatives include weekly office-hours with a mental-health counselor, workshops on debt management, healthy eating and sleeping, and free massages during exam periods.

Students have also taken steps to promote wellness. Third-year students Michelle Forella and Kaitlyn Briggs have collaborated with Cornell's Student Chapter of the American Veterinary Medical Association (SCAVMA) to promote student wellness, actively organizing activities such as pumpkin carving and sledding that promote work-life balance. "We want to give people a license to take a mental break," says Forella. Briggs adds, "Sometimes there's this mentality that vet school sucks and you just power through it, but you have to live in the present, too. We want to help our classmates do that."

"WE WANT TO GIVE PEOPLE A LICENSE TO TAKE A MENTAL BREAK."

-Michelle Forella '17



### GETTING DOWN TO BUSINESS

The business and financial side of the veterinary profession is receiving increased attention at the College. "We are focusing on personal financial management, professional development and practice management, since a significant portion of our students eventually want to own their own practice," says Dr. Leni Kaplan, lecturer of community practice service. She has been working with Dr. Carolyn McDaniel, lecturer of veterinary curriculum, to develop coursework complemented by the office of student and academic services programs on such topics as networking, job interviewing, alternate career paths, and individual career development.

Certain courses and events count towards a business certificate offered by the **Veterinary Business Management** Association (VBMA), a national, student-driven organization. In addition, Cornell's chapter organizes some 30 relevant events every year. "We hope that by giving underclassmen early access to topics such as practice finance and business management, we can better prepare them for shaping their career goals and tackling the job application process," Chapter President Yuan Kang '17 explains.



#### HANDS-ON HELP

For many veterinary students, spaying and neutering pets will be a big part of what they'll do when they leave Cornell. The primary care surgery rotation gives third- and fourth-year students greater surgery experience in complimentary spaying and neutering procedures on adoptable shelter and rescue dogs. However, program directors Dr. H. Jay Harvey and Jennifer Sweet have made the program something much more. "Students make all the decisions, both in and out of the operating room," says Harvey. "They can perform ancillary procedures if they feel it will help the dogs be more adoptable." If a student believes a procedure is needed, Harvey requires that the student first research the procedure, justify it, and then show they are capable of doing it. During the procedure, Harvey scrubs in, but allows students to function on their own, offering encouragement and advice as needed. "It's been wonderful helping the students realize how much they can trust their decisions and their abilities," he says.

#### **TRADING PLACES**

Future animal and human doctors swapped patients during a new elective week-long anesthesia residency rotation in which residents from Weill Cornell Medicine rotate through the College, and veterinary residents rotate through Weill. This initiative was developed by College anesthesiologists Dr. Luis Campoy and Dr. Manuel Martin-Flores; and Weill faculty Drs. Eric Brumberger and Kane Pryor. "The rotation provides a novel approach for residents of both institutions to return to the basic principles of their profession and to hone clinical skills," says anesthesiology Section Chief Campoy. "Residents see procedures and practices they know well, but in a new context, while learning from talented doctors whom they "would not have met otherwise." For former Cornell veterinary resident Dr. Annatasha Bartel, her time at Weill "was one of the best opportunities afforded to me during my anesthesia and analgesia residency," she says. "I found it invaluable to be able to compare human medical practices and techniques with their veterinary counterparts . . . I realized there is considerable overlap between the two. As such, I am now more confident I am providing the best possible clinical anesthesia available to my patients."



"I FOUND IT INVALUABLE TO BE ABLE TO COMPARE HUMAN MEDICAL PRACTICES AND TECHNIQUES WITH THEIR VETERINARY COUNTERPARTS... I REALIZED THERE IS CONSIDERABLE OVERLAP BETWEEN THE TWO."

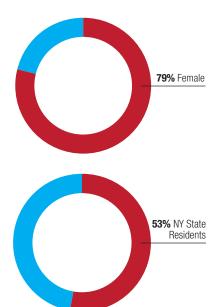
—Dr. Annatasha Bartel



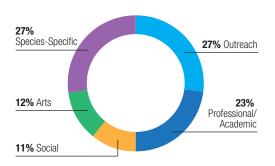
#### **LEARNING**

#### **DVM PROGRAM**

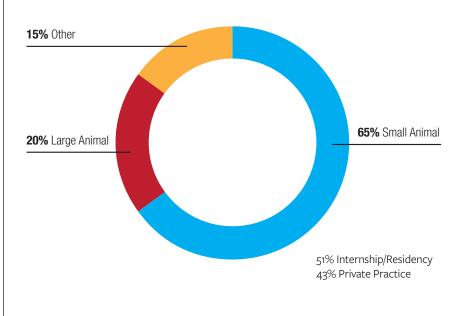




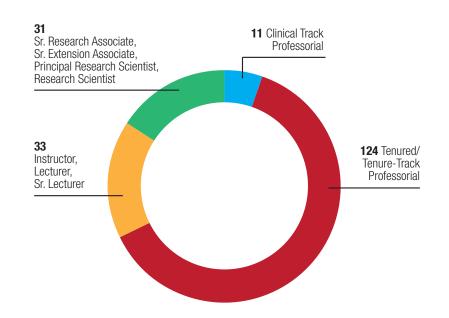
#### STUDENT ACTIVITIES



#### **CAREER PLANS (LAST 5 CLASSES)**



#### **FACULTY: BY THE NUMBERS**



#### **DVM PROGRAM HIGHLIGHTS:**

- Our students are creative—what other veterinary college hosts a dance collective, an a capella group, a theater company, and the stars of the Youtube sensation "Vet School Funk"?
- Our students are engaged: student representatives sit on the admissions committee, the CUHA student advisory committee, the capital expansion committee, the education technology task force, and the curriculum committee.
- CVM students and community said goodbye to the James Law Auditorium with fun and fanfare: a 'Wrecking Ball' party featuring hard hats, skits, and ice cream.
- A record number of scholarship dollars were awarded: \$2,211,384

### DVM PROGRAM FUTURE PRIORITIES:

- Increasing the applicant pool, engaging alumni partners in mentoring and outreach
- Working through the next phase of construction while maintaining program quality
- Continuing efforts in work/life balance
- New initiatives in educational technology led by faculty steering committee and a new staff position
- Implementing curricular changes that will result in a new clinic schedule

**SCHOLARSHIP DOLLARS 2014-2015** 

> \$2.2M





#### **TECHS IN TRAINING**

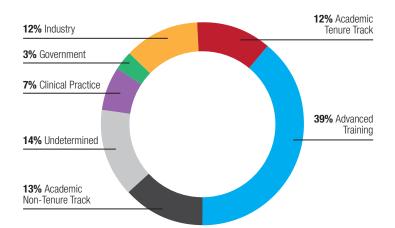
The College is expanding its leadership in education through a Licensed Veterinary Tech-in-Training opportunity. These one-year appointments provide concentrated training for newly licensed veterinary technicians (LVTs) or licensed-eligible veterinary technicians as they work under direct supervision of a Cornell LVT. Participants assist in the care of patients in the Intensive Care Unit (ICU) and Intermediate Nursing Care (INC) units, or help in the large and small animal clinics, while also attending educational workshops. "Our goal is to provide the new graduate with an opportunity to learn a variety of skills and gain knowledge without the pressure of having to take on the responsibility of being a primary LVT in their first year of employment," says Andrea Battaglia, section supervisor of the 24/7 operations including the ICU, INC, and ER. "They will be exposed to all the specialty services and a diversity of cases. This experience will provide these technicians with a successful entrance into their chosen profession and more employment opportunities."



#### **EYE ON THE PRIZE: CAREERS IN FOCUS AT ANNUAL SYMPOSIUM**

The Biological and Biomedical Sciences (BBS) annual symposium focused on practical career-focused topics this year. An NIH program officer spoke to attendees on writing and winning grants—vital skills for the next generation of academics. An all-new career panel discussion featured speakers in academia, industry, and government. Additionally, a variety of faculty looking for incoming graduate students presented posters, engaging potential students one-on-one. Students presenting their own posters had to sum up their research in three minutes—a new challenge designed to encourage young scientists to hone communication skills. "Our training in science needs to be holistic, and learning to pipette at the lab bench is only half the battle," says event organizer David Gludish, a DVM-PhD candidate in the Department of Microbiology and Immunology. "The symposium was about honing skills for communicating your science effectively to an audience that is already so overrun with literature."

#### CAREER PLACEMENT (LAST 5 YR DEGREE CONFERRALS)



#### **BBS HIGHLIGHTS:**

- The NSF Graduate Research Fellowship **Program** is the most prestigious NSF grant available for graduate students: National average success rate: 10-12%
- CVM 2015 success rate: 56%
- BBS students also received awards from:
  - o National Institutes of Health
  - American Association of Bovine Practitioners
  - American Quarter Horse Foundation

#### **CONTINUING EDUCATION FLOURISHES AT CORNELL**

Since the inception of mandatory continuing education (CE) in New York State in 2011, Cornell has continued to grow its offerings of in-depth, live and online events for veterinary medical professionals. In partnership with the New York State Veterinary Medical Society, Cornell hosted the fall and spring New York State Veterinary Conferences. Among other well-received events hosted by the College were the Fred Scott Feline Symposium and the Farrier Conference. Cornell's equine specialty courses featured in-depth tutorials on topics such as arthroscopy and tenoscopy, while the Cornell University Hospital for Animals (CUHA) evening CE events featured topics such as large animal transfusion medicine, glaucoma, Lyme disease, and companion animal cardiovascular disease. "The College continues to develop its reputation for innovative continuing education offerings," says Dr. Meg Thompson, director of continuing education and interim director of CUHA. "Our goal is to continue this success and provide even more engaging and diverse learning opportunities as we move forward."

### CONTINUING EDUCATION HIGHLIGHTS:

- The annual fall and spring New York
   State Veterinary Conferences featured
   surgery- and medicine-focused tracks,
   as well as tracks dedicated to veterinary
   technicians.
- Farriers from around the country attended the 2014 farrier conference at the College, which marked not only the 30th anniversary of the start of the conference, but also the 100th anniversary of the opening of the Cornell farrier school.
- Cornell Ruffian Equine Specialists began providing monthly CE events for referring veterinarians, owners, trainers, and farriers.

### CONTINUING EDUCATION FUTURE PRIORITIES:

- Blended educational content including experiential and online learning components
- Sponsoring and developing in-depth, week-long events

NUMBER OF PEOPLE PARTICIPATING IN CORNELL CONTINUING EDUCATION THIS YEAR

4,521





## **LEARNING**CONTINUING EDUCATION

"DR. D INSPIRED
INSPIRED NOT ONLY
ATTENDANCE AT 2 A.M.
ROUNDS AND HOURS
OF VIDEO AND IMAGE
REVIEW, BUT ALSO A
LASTING DEDICATION
TO EXCELLENCE IN ALL
THOSE WHO HAD THE
GOOD FORTUNE TO
WORK WITH HIM."

—Dr. Christine Wimer '08



Living legend Alexander de Lahunta DVM '58, PhD '63, or, "Dr. D" as he is affectionately known, gave his famous case study sessions during the spring 2015 New York State Veterinary Conference (NYSVC) in Rye Brook, N.Y. A pioneer in veterinary neurology, Professor Emeritus de Lahunta earned his renown as a scientist, an astute diagnostician, and an exceptional educator. His case study sessions have become legendary among veterinarians, and those who attended the spring event, co-sponsored by the College and the New York State Veterinary Medical Society, had an ideal opportunity to attend a formal tutorial from the master. The first session featured video examples and discussions of neuromuscular, spinal cord and prosencephalon case studies, while the second showcased diagnoses on nerve-muscle, cerebellum-vestibular system and involuntary movement disorders. "He epitomized the term 'teacher' in its broadest sense," Former Dean Michael Kotlikoff said in an interview with Ezra magazine. "He has this electric enthusiasm for veterinary medicine and a genuine passion for teaching," says former student Dr. Christine Wimer '08. "Dr. D inspired not only attendance at 2 a.m. rounds and hours of video and image review, but also a lasting dedication to excellence in all those who had the good fortune to work with him."





**LEARNING**FACULTY AND STAFF

"THE FACULTY BEING RECRUITED WILL NOT ONLY SHAPE THIS PROGRAM FROM ITS INCEPTION, BUT THEY'LL ALSO RAISE THE PROFILE OF THE PROFESSION THROUGHOUT ASIA."

—Dr. Alex Travis

#### HIRING IN HONG KONG

Cornell University College of Veterinary Medicine continues its collaboration with The City University of Hong Kong (CityU) to create the first academic program in veterinary medicine in Hong Kong. Envisioned as a regional center of excellence in education and discovery, the School of Veterinary Medicine (SVM) will have a core focus in emerging zoonotic diseases, animal welfare, aquaculture, public health, and food safety. Faculty recruitment for the SVM is underway, with chair positions available in the departments of veterinary diagnostic services/pathology; veterinary medicine/ surgery; One Health, and aquaculture. "This is a hugely important and very exciting time in our partnership to promote world-class veterinary training at CityU," says Dr. Alex Travis, associate dean for international programs. "The faculty being recruited will not only shape this program from its inception, but they'll also raise the profile of the profession throughout Asia."







2015 STAFF COUNCIL

## STAFF COUNCIL EXPANDS PROGRAMS AT THE COLLEGE

The College's staff council was established in 2012 as a platform for non-academic staff to provide input to the dean. Key goals include staff wellness, community building, and engagement, and this year saw several initiatives that worked towards these aims. The group established pick-ups for communitysponsored agriculture (CSA) shares, enabling College staff easy access to fresh, locally grown produce from regional farms right at the College. Other wellness initiatives have included the Vet Research Tower stair climb challenge, yoga classes, boot camp classes, bike-towork days, walking challenges, and health-related lectures.

The council has fostered staff community building through social events such as the Cookies and Cocoa and Summer Social parties, allowing all members of the CVM community to come together and meet each other. Additionally, this past year, the group implemented the Ambassador Program, which pairs new hires with established staff to act as a resource for peer support. The council also works to improve staff understanding and utilization of different Cornell benefits, sponsoring presentations on the health, retirement, education, and childcare benefits available. "Our goal is to continue to provide even more enriching activities and engagement opportunities for our staff community in the future with the hopes that everyone in the College will benefit." says Council Chair Scott Butler.



Schurman Hall echoes with the sounds of drilling, the College's preclinical class expansion and capital project is nearing completion of phase one, which is slated to finish in January 2016. With the project progressing as planned, both staff and students are adjusting to new circulation patterns around the buildings and through construction zones. The Flower-Sprecher Veterinary Library has been temporarily relocated to the old cafeteria space, allowing students to continue studying as the old library space is being dismantled. Renovations in Gross Anatomy and the construction of the Clinical Programs Center new faculty

offices are now done, while the work in the former Show and Tell area is nearing completion and Old Necropsy is in progress. Finally, construction on both levels one and two of Schurman Hall continues while foundation excavation for the new library wing has begun. Phase two, scheduled to begin in January 2016, will include demolition of the Veterinary Education Center Atrium, old library, and the old Diagnostic Lab. The noise and dust will be worth it; when fully completed in the fall of 2017, the expansion will allow for an increased preclinical class size (from 102 to 120), while also helping to further academic goals, build a stronger sense of community, and make the College more environmentally friendly.



102->120

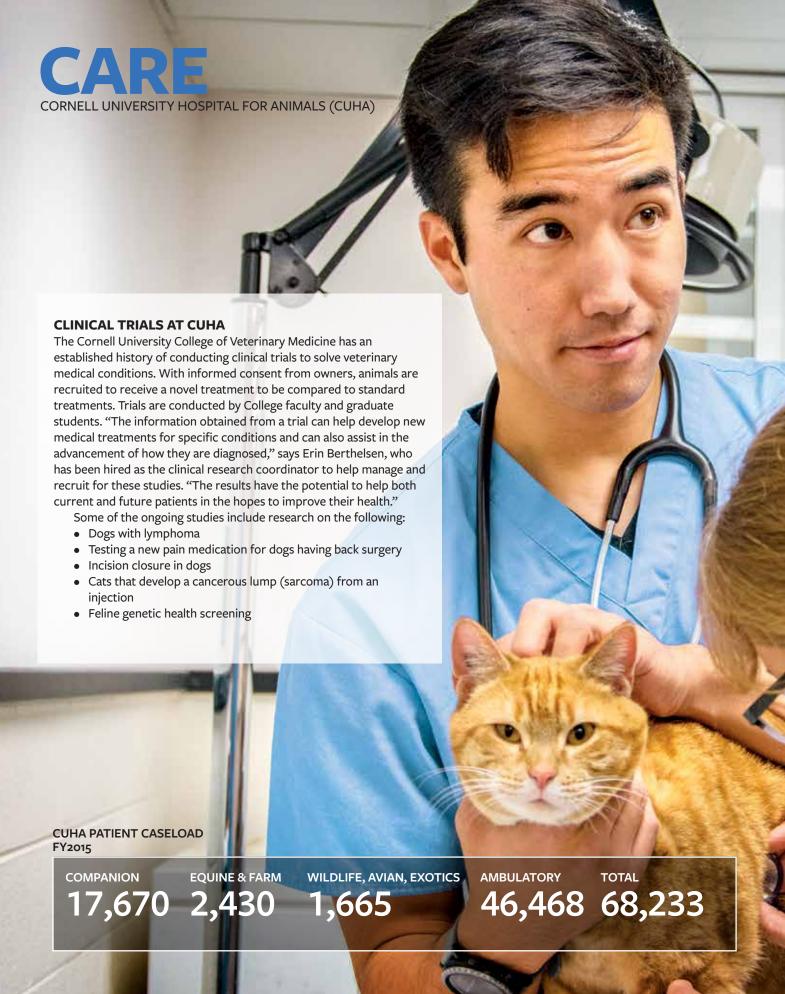
THE EXPANSION WILL ALLOW FOR AN INCREASED PRECLINICAL CLASS SIZE 2016

THE INITIAL PHASE WILL BE COMPLETED IN JANUARY

2017

THE ENTIRE PROJECT IS SLATED

TO FINISH IN FALL















## CORNELL UNIVERSITY HOSPITAL FOR ANIMALS (CUHA) HIGHLIGHTS:

- Dr. Lorin Warnick, former CUHA director, appointed as interim dean of the College
- Dr. Meg Thompson appointed as interim CUHA director
- CUHA hosted a team of Japanese surgeons who performed ground-breaking mitral valve surgery on Esme, a Japanese Chin, who suffered from mitral valve regurgitation.
- Cornell's Farm Animal Hospital renamed as the Nemo Farm Animal Hospital, dedicated to a beloved porcine lymphoma patient
- Recruitment of 15 new CUHA faculty members
- Cornell Ruffian Equine Specialists (CRES) completed its first year of operation, hitting financial and caseload milestones ahead of plan.

CUHA CLINICAL TEACHING REACH:

120 DVM STUDENTS

50 DVM STUDENT EXTERNS

30 VISITING VETERINARIANS

6 STUDENT TECHNICIANS IN PRECEPTORSHIP

5 TECHNICIAN INTERNS





#### HIRING AT THE HOSPITAL

The Cornell University Hospital for Animals (CUHA), both a regional and national center for state-of-the-art care for companion and livestock animals, invested in top-level faculty practitioners, hiring 12 clinicians who add their expertise to daily hospital services and patient care. As staff of a teaching hospital, all new CUHA hires are also faculty members of the Department of Clinical Sciences.

#### **New faces at CUHA include:**

Dr. Nadine Fiani has joined the dentistry section at the hospital as clinical assistant professor. She completed a residency in dentistry and oral surgery at the University of California, Davis, and specializes in advanced veterinary dentistry and oral surgery. She is particularly interested in the fields of endodontics, orthodontics and reconstructive maxillofacial surgery. "It is a very exciting field that deals with cutting-edge procedures and spans numerous species," says Fiani.

Dr. Galina Hayes was recruited as assistant professor of small animal surgery. She completed her residency in small animal surgery at the University of Guelph, as well as a doctorate in veterinary science in pharmacokinetics and a PhD In epidemiology. Her surgical interests include reconstructive techniques and emergency surgical procedures.

Dr. Julia Sumner recently joined CUHA as a small animal soft tissue surgeon. She completed her residency in small animal surgery at the University of Washington; at Cornell she performs many kinds of soft tissue surgeries, with a particular interest in minimally invasive techniques. Sumner enjoys the diverse daily interactions that come with the job. "I love working with clients and their pets, but I get a huge kick from training our students and residents and seeing them grow as clinicians," she says.

Additionally, the hospital has invested in strengthening the breadth and depth of its expertise by hiring the following:

Dr. Emma Davies, senior lecturer, neurology

Dr. Filipe Espinheira, assistant professor, ophthalmology

Dr. Philippa Johnson, assistant professor, diagnostic imaging

Dr. Leni Kaplan, lecturer, community practice service

Dr. Meredith Miller '07, lecturer, small animal medicine

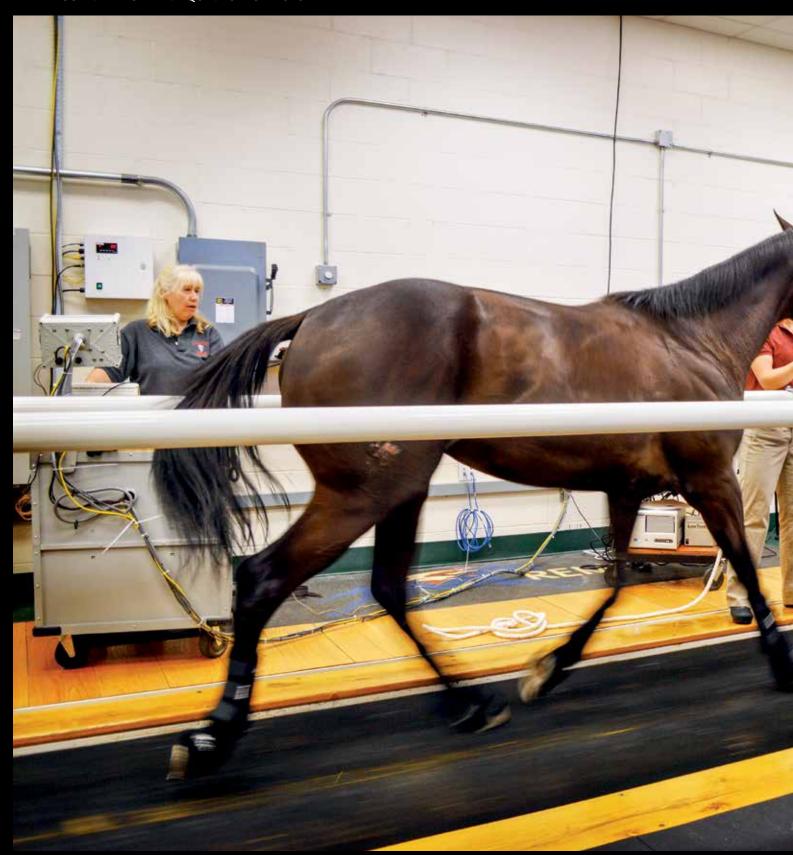
Dr. Romain Pariaut, associate professor, cardiology

Dr. Santiago Peralta, assistant professor, dentistry

Dr. Daniel Sakai, instructor, anesthesiology

Dr. Ruth Van Hatten, lecturer, diagnostic imaging

**CARE**CORNELL RUFFIAN EQUINE SPECIALISTS





## OFF TO THE RACES

## CORNELL RUFFIAN EQUINE SPECIALISTS' FIRST YEAR

June of 2015 saw the end of Cornell Ruffian Equine Specialists' (CRES) inaugural year, a milestone met with celebration and excitement for the future. To mark the occasion, trainers, owners, veterinarians, and friends convened at CRES headquarters, located across from Belmont Park, where they listened to talks; toured the facility; and socialized with staff and other horse lovers. CRES clinicians discussed the various achievements during the first year of operation, including caring for approximately 800 horses, and conducting procedures such as bone scans, respiratory surgeries, and fracture repair. Erin King Sweeney, horse owner and councilwoman of Hempstead, N.Y., presented a certificate of recognition on behalf of the town board, saying the clinic "really is a gem." Kotlikoff closed the talks by announcing that the client entrance would be named the Dan and Jane Burke Foyer, in recognition of the Burkes' generous support for equine programs at Cornell. Additionally, CRES officials revealed the new standing MRI machine, which represents a significant improvement over older MRI machines by allowing for excellent images of the lower leg without the traditionally associated risks. With their team of experts, CRES is poised for an even better second year as the caseload continues to grow and horse owners from Long Island, New York State, and beyond benefit from the clinic's care and dedication.



FORMER DEAN MICHAEL KOTLIKOFF, HEMPSTEAD COUNCILWOMAN ERIN KING SWEENEY, AND CRES CMO DR. ALAN NIXON

## SPOTLIGHT ON DR. JOSEPH BARTGES



his year, Cornell University
Veterinary Specialists (CUVS)
hired world-renowned specialist
Dr. Joe Bartges as staff internist,
nutritionist, and academic
director. "We're honored to have Bartges
join our team," says Dr. Susan Hackner, chief
medical officer and chief operating officer
of CUVS. "He has a long, esteemed career
as a clinician, a scientist, an educator and a
professional leader. He brings this tremendous
combination of expertise and experience to
CUVS."

Bartges, an expert in nephrology, urology, and nutrition, is a past president of the American Society of Veterinary Nephrology and Urology. Prior to joining the CUVS clinical staff, he served as professor of medicine and nutrition at the University of Tennessee, held an endowed chair of research, and served as interim head of the department of Small Animal Clinical Sciences. "This is an exciting and unique opportunity—it allows me to be a clinician as well as an academician in a private specialty setting; however, I also have an adjunct position with Cornell University that will keep me involved in academics."

#### **CUVS HIGHLIGHTS:**

- 19% growth from FY2014 to FY2015
- 38% percent growth in Q4 of FY2015, as compared to Q4 of FY2014
- More than two-thirds of CUVS caseload is from direct referrals.
- Emergency and Critical Care constitutes approx. 42% of CUVS business, Internal Medicine and Surgery each account for roughly 22%.
- CUVS has 84 employees, 12 specialists, 4 emergency doctors.



## CUVS SUCCESS

"COLLABORATION
AND INTEGRATION
ARE AMONGST OUR
GUIDING PRINCIPLES.
WE BELIEVE IN
BRINGING THE
BEST EXPERTISE
TOGETHER TO
BENEFIT EACH PET."

-Dr. Susan Hackner

2015 has been a successful fiscal year for Cornell University Veterinary Specialists (CUVS): the practice saw close to 10,000 cases, referred by roughly 700 referring veterinarians. It grew by 19% in this period, and by 38% in the last quarter. "Our growth rate has been pretty astounding," says Dr. Susan Hackner, chief medical officer and chief operating officer of CUVS. "It's almost unprecedented for a hospital in their fifth year of operations."

CUVS specialties in the fiscal year included emergency and critical care, internal medicine, surgery, oncology, and cardiology. CUVS also has renowned experts in interventional radiology and interventional endoscopy services, enabling sophisticated procedures that are possible in very few veterinary institutions. In February 2015, CUVS added physical rehabilitation and acupuncture. "Collaboration and integration are amongst our guiding principles." says Hackner, "We believe in bringing the best expertise together to benefit each pet. Physical rehabilitation and acupuncture was a natural progression for us given the need from our orthopedic, geriatric and oncologic patients." CUVS isn't stopping there. In September 2015, it added dentistry and oral surgery as well as full-time ophthalmology.

Additionally, CUVS has continued to act as a mission-driven veterinary center, providing externship opportunities for veterinary students; a robust continuing education schedule for area veterinarians; and collaborating with the College's Biobank and numerous ongoing clinical trials.

9.973

\$10,160,435

**CUVS HAS:** 

**EMPLOYEES** 

**SPECIALISTS** 

**EMERGENCY DOCTORS** 

84

12

4



# GIMME SHELTER

"OUR HOPE IS THAT THIS PROGRAM CAN INSPIRE A LIFETIME OF ENGAGEMENT IN HUMANE ORGANIZATIONS AND COMMUNITIES."

—Dr. Elizabeth Berliner '03

# SHELTER MEDICINE HELPS ANIMALS BEGIN AGAIN

our decades ago, the care and treatment of rescue animals was piecemeal; most animals that entered the shelter did not make it out alive. Thanks to the service and effort of Cornell veterinarians, shelter medicine has become a calling for veterinarians and students across the country.

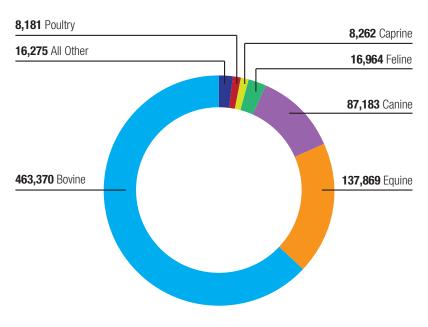
It began in 1999, when Cornell epidemiologist Dr. Jan Scarlett developed and taught the first course in shelter medicine at the Cornell University College of Veterinary Medicine, partnering with Dr. Lila Miller '77, who was working as a veterinarian in the ASPCA's animal shelter in New York City. In 2005, the program gained support from the Maddie's™ fund, a national foundation focused on promoting shelter medicine and pet adoptions. Today, what started as a single course at Cornell is now a board-certified specialty in veterinary medicine that's offered at most veterinary colleges across the country.

Cornell's program offers three classes, the first serves as an introduction to companion animal welfare, and is followed by two upper-level courses and an elective rotation that takes fourth-year students into shelters. "We are out in the shelters on a daily basis working with the animals," says Dr. Elizabeth Berliner '03, the Janet L. Swanson Director of the Maddie's Shelter Medicine Program. At the SPCA of Tompkins County, animals that require medical care get treated by Cornell veterinarians, students, and interns, helping these animals get the chance of a new beginning.

Cornell's shelter medicine program has given countless animals a new lease on life—including 'Tifa', a young Chihuahua mix found with a badly injured leg. The dog was initially aggressive with her handlers, worrying shelter medicine practitioner Dr. Holly Putnam that the animal would not be adoptable. Putnam and intern Dr. Christina Delgado '14, determined that Tifa's leg required amputation due to the severity of the injury. "Within hours of the surgery, she was up running around like nothing had happened," says Putnam. "Even better, she soon warmed up to the people taking care of her." A few weeks later, Tifa was successfully adopted out and renamed Pogo, due to her ability to jump on one leg.

"This kind of real life and hands-on shelter experience allows the students to leave with a much clearer sense of how to engage, as a veterinarian, in changing the lives of shelter animals," says Berliner. "Our hope is that this program can inspire a lifetime of engagement in humane organizations and communities."

#### **AHDC TEST VOLUME**



# AHDC WELCOMES NEW DIRECTOR

In October, Dr. François Elvinger took the helm of Cornell's Animal Health Diagnostic Center (AHDC) as its new executive director. The Luxembourg native comes to Ithaca from the Virginia-Maryland College of Veterinary Medicine at Virginia Tech, where he taught veterinary epidemiology and served for ten years as director of the public health program. Elvinger has actively pursued his interest in diagnostics and particularly surveillance for nearly three decades, chairing numerous committees in the American Association of Veterinary Laboratory Diagnosticians (AAVLD); the United States Animal Health Association (USAHA); the USDA's National Animal Health Surveillance System; and currently serves as president of the AAVLD.

He brings this expertise, as well as his experience in program building and understanding of university governance, to the AHDC. "My role



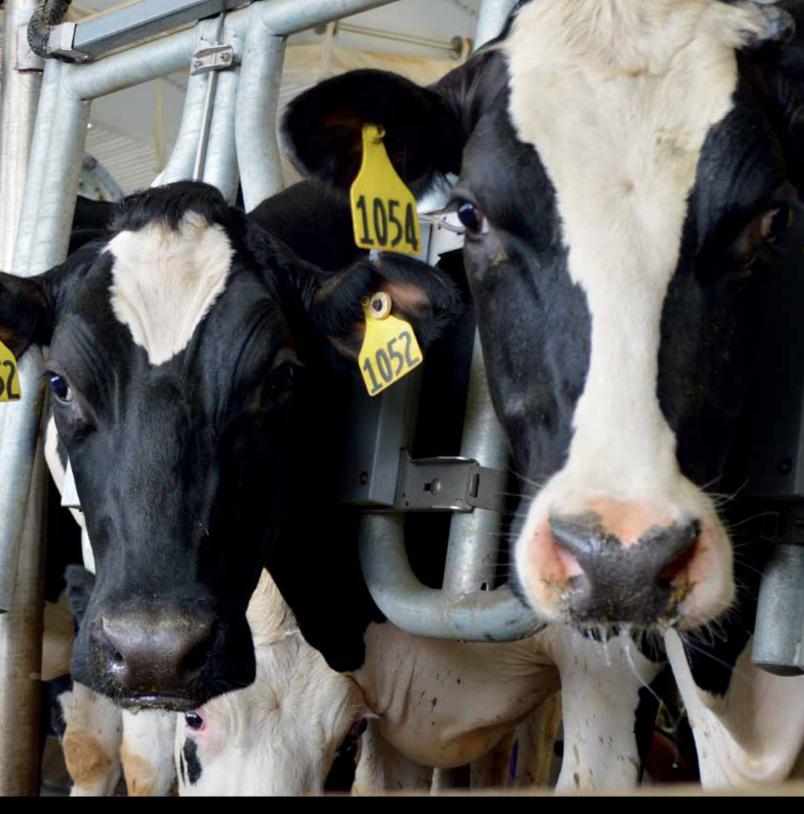
will be to support all faculty and staff in doing the best work possible to further expand the

AHDC's great reputation for excellent service and research," Elvinger says of leading the center's more than 200 professionals. "I feel very privileged to come here, and I am looking forward to working with all stakeholders to maintain and enhance animal and public health."

"MY ROLE WILL BE TO SUPPORT ALL FACULTY AND STAFF IN DOING THE BEST WORK POSSIBLE TO FURTHER EXPAND THE AHDC'S GREAT REPUTATION FOR EXCELLENT SERVICE AND RESEARCH."

—Dr. François Elvinger





#### **QMPS KEEPS UP WITH COWS**

Quality Milk Production Services (QMPS) has extended their services to a seven-day-a-week, 24-hour turn-around for clinical mastitis diagnostic results for dairy operations. "The cows have to be milked seven days a week," says Dr. Daryl Nydam '97, director of the QMPS and associate professor of dairy health and production in the Department of Population Medicine and Diagnostic Sciences. As he sees it, if the cows and dairy farmers are working, so should the QMPS. "Dairy operations can't wait until Monday for the result of a diagnostic test if they are using it for treatment decisions." The QMPS's new courier, laboratory, and data management system will give dairy operations a solid diagnosis on what type of bacteria is causing the mastitis within 24 hours—"so farmers can make decisions around whether or not to treat, and to treat with what," says Nydam. QMPS has four labs across New York State, making the 24-hour turn around goal quite feasible. "About 75% of the roughly 610,000 cows in our state are within a 45-minute drive to one of our labs."



# EQUINE ENDOCRINOLOGY TESTING

Equine veterinarians around the country are sending patients' samples to the Animal Health Diagnostic Center (AHDC) to test for Equine Cushing's syndrome and/or Equine Metabolic syndrome. Both conditions can eventually lead to laminitis, a serious, crippling disease of the hoof and foot. "The idea is to catch these diseases before a horse becomes laminitic," says Dr. Ned Place, who oversees the top-notch team of technologists at the diagnostic endocrinology laboratory at the AHDC. The lab tests for tell-tale increases in key hormones that point to equine metabolic conditions. Place and his team collaborate with the

Equine Endocrinology Group, founded by Dr. Nicholas Frank of Tufts University, which aims to standardize equine endocrinology testing. Thanks these efforts, along with outreach and education from Cornell extension veterinarians such as Dr. Barb Schanbacher '93, the AHDC has seen a substantial increase in equine endocrinology tests. Additionally, the endocrinology laboratory has a reputation for doing excellent work. "We're pretty persnickety about how we do our testing," says Place. The fastidiousness is paying offfor the past two years the number of samples tested has increased by nearly 75%.

FOR THE PAST TWO YEARS THE NUMBER OF SAMPLES TESTED BY THE DIAGNOSTIC ENDOCRINOLOGY LAB HAS INCREASED BY 75%









DISCOVERY
POPULATION MEDICINE AND
DIAGNOSTIC SCIENCES

"DR. GLASER
RECOGNIZED
THE CRUCIAL
NEED FOR
A NATIONAL
REPORTING
SYSTEM."

—Dr. Edward Dubovi

# POPULATION MEDICINE AND DIAGNOSTIC SCIENCES HIGHLIGHTS:

- The department hired Jessica McArt, DVM '07, PhD '13, who studies identification, epidemiology, and economics of diseases in dairy cattle.
- The department hired Dr. Sera Young, a human nutritionist, who focuses on the impacts of food insecurity on maternal and child health in sub-Saharan Africa.
- Dr. Yrjö T. Gröhn was awarded the James Law Professorship.

DR. AMY GLASER'S DOG, DINGO, POSES FOR THE CAMERA.

# CANINE DRS. AMY GLASER AND EDWARD DUBOVI INFLUENZA INVESTIGATION

In March of 2015, reports of an unusual outbreak of canine respiratory disease began circulating in the Chicago area. Samples from some of these cases were submitted to the Animal Health Diagnostic Center (AHDC) and routine testing determined that an influenza A virus was involved in over half of the cases. A canine influenza virus, H3N8, had existed in the US since 2004, but the Chicago outbreak seemed to be more intense than had been seen recently with the H3N8 virus, and standard typing assays were not able to

identify this virus.

The Cornell team comprised of Dr. Amy Glaser, senior extension associate and director of the molecular diagnostic lab, and Dr. Edward Dubovi, professor and director of virology, with the Department of Population Medicine and Diagnostic Sciences, as well as members of the lab of Dr. Colin Parrish at the Baker Institute, embarked on a collaborative effort, both within campus and across other institutions, to characterize and identify the mystery influenza strain. Glaser's lab got a preliminary identification from sequences obtained from clinical samples at the same time Dubovi grew the virus in cell culture. Analysis revealed the virus to be a strain new to the country—H3N2—which originated in South Korea. The identification of the virus was supported by work done at the Veterinary Diagnostic Laboratory in Wisconsin and confirmed by full genome sequencing done by the National Veterinary

Service Laboratories in Ames, Iowa.

Identifying the H3N2 virus was just the first step, however. "Dr. Glaser recognized the crucial need for a national reporting system for these canine viruses," says Dubovi. "Not only is this virus showing a greater ability to spread in community settings, but now we have two influenza strains in dogs." Monitoring both viruses was vital, not only to map where in the country the two strains were circulating, but also to identify novel viruses that might arise in dogs infected by both strains. To accomplish this, Glaser created a voluntary canine influenza surveillance system with help from both private and state veterinary diagnostic laboratories. Currently, a coalition of laboratories shares data on H3N2 and H3N8 viruses, mapping their distribution and keeping tabs on locations with active virus transmission. Previously, no national reporting system had existed for monitoring infectious diseases in companion animals.

A further outgrowth of Cornell's collaborative effort was the creation of the national Canine Influenza Task Force, a coalition of laboratory researchers, industry partners and the surveillance system participants that share data and virus isolates to help increase our understanding of how canine influenza virus is spreading and changing as it enters new environments.

Additional testing is now available at the AHDC to help veterinarians detect the presence of this newly introduced virus in their patients.



he sneezing, scratching, and inflamed skin that come from different types of allergies are all too common problems for dogs and cats. At the Baker Institute, Drs. Elia Tait Wojno and Charles Danko are bridging the disciplines of immunology, genomics, and computational biology in order to better understand why the immune system launches these dysfunctional attacks. Tait Wojno is comparing the immune response in healthy and allergic animals, and in concert, Danko is analyzing individual cells in the immune system, using bioinformatics techniques to identify which genes are turned on and off during the development of allergic disease. This will help them understand how the different genes work together in allergies and could help design treatments to help pets and humans suffering from their bodies' own immune systems.



DRS. ELIA TAIT WOJNO
AND CHARLES DANKO
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# BAKER INSTITUTE FOR ANIMAL HEALTH HIGHLIGHTS:

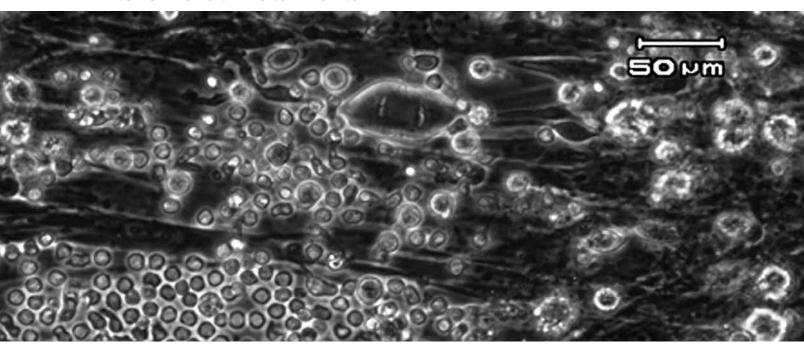
- Faculty members Drs. Scott Coonrod and Gerlinde Van de Walle joined forces to test a new therapy for treating mammary cancer in pets and humans alike. The early results are promising and the drug may be headed to clinical trials in animals soon.
- Dr. Doug Antczak in partnership with the AHDC is studying sarcoid tumors in horses to identify whether genetics make some horses and breeds more susceptible than others.
- Post-doc Dr. Andrew Allison identified and named the Wellfleet Bay virus, which is responsible for mass duck-die off on Cape Cod.
- Collaborative research programs in immunology, as well as basic research and diseases of dogs continue to expand.

# CORNELL FELINE HEALTH CENTER DISCOVERY MAKING A DIFFERENCE FOR CATS UNDERGOING ANESTHESIA, DENTAL PROCEDURES

Cornell Feline Health Center-funded research led by Dr. Manuel Martin-Flores is helping to ensure that cats undergoing anesthesia for dental and other procedures come out of the experience safe and sound. In 2014, a study by Martin-Flores and his colleagues showed that certain mouth gags commonly used to keep the mouth open during feline dental procedures open the mouth too wide and impinge on the flow of blood to the brains of cats, in some cases causing temporary or permanent vision loss and other neurological problems. Thanks to this work, veterinarians at Cornell and around the world are changing their practices, adjusting the gags to open only as far as necessary or using improvised devices so that blood flow continues normally while the cat is under anesthesia.

# CORNELL FELINE HEALTH CENTER HIGHLIGHTS: • Dr. Ned Place is carrying out research on anti-mullerian hormone to help captive cheetah breeding programs identify which females are the best candidates for assisted reproductive technologies like in vitro fertilization. • Dr. Kathleen Kelly is investigating possible infectious causes of a common feline heart disease, restrictive cardiomyopathy. • The first inaugural Cat Lover's Conference was held in New York City this November 2015. • The Center will begin facilitating felinespecific externships for DVM students in feline private practices. The Feline Health Center Grants Program will expand thanks to the generous support of donors investing in a better future for feline health and well-being.

#### FLIPPING A SWITCH ON IMMUNODEFICIENCY



ommon variable immunodeficiency (CVID) is the most common type of immunodeficiency disease in humans, yet is poorly understood. The only known natural model of the disease occurs in horses. These equines have a seemingly healthy immune system until a late-onset impairment of B cell development occurs in the bone marrow, which then prevents the production of antibodies. Affected horses typically suffer from recurrent fevers and bacterial infections that can sometimes turn fatal. Dr. Julia Felippe is working to change this through her work using transcriptomic and epigenetic analyses on CVID horses, supported by the NIH Director's New Innovator Award, designed specifically to support unusually creative new investigators with highly innovative research ideas. Felippe and her team discovered that instead of CVID arising from faulty genes, it arises due to key genes being 'switched off' by faulty epigenetic regulation. With more investigation, Felippe and her team may find a way to switch those genes back on to create a functional immune system again, with applications for both human and equine patients. Her team has already developed an in vitro system by which stem cells are transplanted into CVID individuals to restore normal immune function.

### CLINICAL SCIENCES HIGHLIGHTS:

- Dr. Danny Scott named the James Law Professor of Dermatology.
- Dr. Thomas Divers received the Robert W. Kirk Award for Professional Excellence.
- Dr. Divers will give the prestigious Milne address at the American Association of Equine Practitioners 61st annual convention this December.
- Drs. Bud Tennant and Divers conducted clinical studies of an outbreak of Theiler's disease in horses, identifying a previously unknown flavivirus as the culprit.

#### **SEQUENCING SERVICES**

In April of 2014, Cornell established the **Center for Reproductive Genomics (CRG)** with the aid of a \$10 million NIH grant, making it a National Center in Translational Research in Reproduction and Infertility (NCTRI), one of only eight in the country. The CRG studies the role of RNA in the development of sperm and eggs, and partners fundamental research done at the College with the clinical work at Weill Cornell Medicine. The Center also focuses on outreach and education for patient groups and doctors. Now, roughly a year-and-a-half in to the project, "We're really starting to see the fruits of our labor," says Center Director Dr. Paula Cohen, professor of genetics.

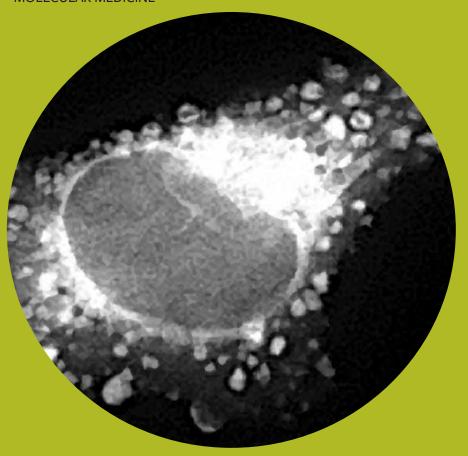
One fruitful development is the RNA Sequencing Core, led by Dr. Jen Grenier, which provides customized genome-scale sequencing technology to researchers across Cornell University. "I call it a partnership model," says Grenier, who works closely with scientists at every step of the scientific process. Already, scientists across the College and Cornell have enlisted the RNA Sequencing Core in their genomics research. Grenier has sequenced samples across multiple species, and has even been able to sequence samples from 20-year old formalin-fixed tissue. Grenier encourages researchers to take advantage of the sequencing core, "the earlier the better—that way we can really help the scientists get the most out of this service."

### BIOMEDICAL SCIENCES HIGHLIGHTS:

- Dr. Kristy Richards joined the department and heads the comparative lymphoma research initiative with Weill Cornell Medicine
- Instructors Dr. Alison Miller '07
   and Dr. Linda Mizer use innovative
   audiovisual methods in teaching
   Applied Anatomy, contributing to
   the interface between preclinical
   and clinical education.
- Six outstanding postdoctoral fellows have been awarded seed grants of \$5000-\$10,000 to initiate studies of non-coding RNAs in reproduction. Funds will support experimental studies and use of the RNA Sequencing Core for up to one year.



# **DISCOVERY**MOLECULAR MEDICINE



#### **REMOVING CANCER'S CAMOUFLAGE**

ancer cells have ways of making themselves at home in the body; Dr. Richard Cerione, Goldwin Smith Professor of pharmacology and chemical biology and faculty member in the Department of Molecular Medicine, wants to make them feel unwelcome. Cerione's group is studying the interaction between VEGF, a signaling protein, and its receptor, VEGFR, which resides on endothelial cells. When activated, these receptors enable cancer cells to create a surrounding framework of blood vessels that provide nutrients and potential avenues for metastasis.

Researchers have suspected that blocking the interactions between VEGF and the VEGFR was an elegant way to thwart cancer. Indeed, the drug Avastin binds to VEGF and prevents it from engaging its receptor. However, while Avastin looked promising in initial cancer trials, in many instances it ultimately failed, and was removed from use as a treatment for breast cancer. Cerione thinks the culprits behind this failure are microvesicles—numerous, tiny blobs that are aggressively shed from the outer membrane of cancer cells and spread throughout the body. Cerione hypothesizes that these microvesicles bind to VEGF and provide a kind of camouflage, hiding it from Avastin, so the drug can no longer block the binding action between VEGF and its receptor.

"Our hope is to design strategies to restore the effectiveness of Avastin," says Cerione. "We're interested in combination therapies—compounds that can either block vesicles entirely, or release VEGF from the vesicle so it can be 'seen' by the drug."



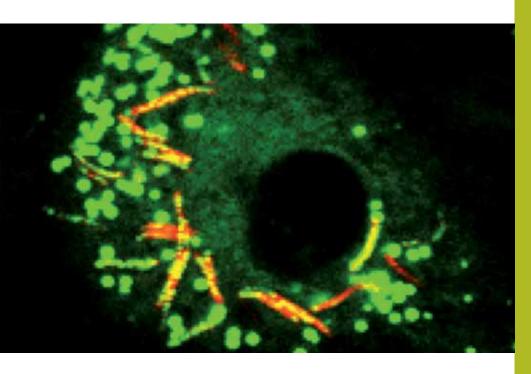
DR. RICHARD CERIONE

"OUR HOPE IS TO DESIGN STRATEGIES TO RESTORE THE EFFECTIVENESS OF AVASTIN, WE'RE INTERESTED IN COMBINATION THERAPIES—COMPOUNDS THAT CAN EITHER BLOCK VESICLES ENTIRELY, OR RELEASE VEGF FROM THE VESICLE SO IT CAN BE 'SEEN' BY THE DRUG."

—Dr. Richard Cerione

### MOLECULAR MEDICINE HIGHLIGHTS:

- New faculty hires: Dr. Gunther Hollopeter studies mechanisms of endocytosis in C. elegans, and Dr. Carrie Adler studies stem cells and organ regeneration in Planaria.
- The research of Dr. Natasza
   Kurpios was featured as a cover article in *Developmental Cell* on lymphatics in the gut.
- Dr. Carolyn Sevier published a paper in eLife on oxidative stress in yeast.



#### **NEW WEAPON FOR AN OLD FIGHT**

Researchers in the Department of Microbiology and Immunology have made a promising discovery in battling tuberculosis, which kills 1.5 million people annually. In a collaboration with Vertex Pharmaceuticals, research groups led by Dr. David Russell, William Kaplan Professor of infection biology in the Department of Microbiology and Immunology; and Dr. Brian VanderVen, assistant professor of Microbiology and Immunology, recently reported on a new family of compounds that block the tuberculosis bacteria's digestion of cholesterol—their primary food source. "We had a hunch that cholesterol was important to TB bacteria," says VanderVen, "but we didn't know how important until we got these results."

"THEY ARE
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HUMAN EXISTENCE."

—Dr. Brian VanderVen

While this discovery is exciting, it's not yet a silver bullet for treating TB. "This bacteria is really complicated," he says. "They are incredibly well-suited to survive in humans—in fact, we believe they've been around since the earliest days of human existence." Thus, while some drugs kill some populations of TB bacteria, other populations in different metabolic or physiological states will go unscathed, creating a frustrating 'whack-a-mole' treatment scenario. "Our hope is that, by shutting down the bacteria's ability to digest cholesterol, we can corral TB into a unified physiological state, and better control them with other established drugs," says VanderVen.

# MICROBIOLOGY AND IMMUNOLOGY HIGHLIGHTS:

- The department hired three new junior faculty members:
  Dr. Brian VanderVen studies the bacteria that cause tuberculosis;
  Dr. Jeongmin Song studies the pathogenic mechanism of bacterium that causes typhoid fever; and Dr. Pamela Chang studies the interaction between gut microbiota and the host's immune system.
- Department faculty members received key awards:
  - (i) Department chair Dr. Avery August received the E.E. Just Award from the American Society for Cell Biology in December 2014.
- (ii) The Teratology Society has awarded Dr. Rodney Dietert the James G. Wilson Publication Award for his paper: "The Microbiome in Early Life: Self-Completion and Microbiota Protection as Health Priorities".





#### **BIOBANKING**



he Cornell Veterinary
Biobank (CVB), which
stores genetic material from
patients admitted to the
Cornell University Hospital
for Animals, has continued to expand
its services and scope. Currently, the
CVB contains samples from over 15,200
patients representing a wide variety of
species and over 190 diseases of interest.
These archived samples are paired with
information from the patients' history
and medical records, and can be used by
researchers who work to discover the
genetic basis of disease.

"In order to find the location of mutations in the genome that cause inherited traits in dogs and cats, you need many individuals," explains CVB Director Dr. Marta Castelhano. "Some have the trait, and you need as many controls. Most of the diseases we are studying at Cornell (like cancers, intestinal diseases, and orthopedic diseases) are caused by many mutations

of small effect. These are hard to discover. We estimate that as many as 500-1,000 cases and 500-1,000 controls are necessary to identify the mutations." Inter-College collaboration is crucial to getting enough samples; the Cornell Feline Health Center helps the Biobank acquire both case- and control-sample DNA from cats. Simultaneously, Cornell University Veterinary Specialists (CUVS) in Stamford, Conn., has increased their participation in the effort. "CUVS has a case load that allows us to rapidly accumulate DNA from appropriate dogs and cats for genetic analysis," says Castelhano.

The CVB's mission is not just limited to improving the health and well-being of veterinary patients. Frequently, animals can serve as models for similar heritable conditions in humans, therefore, research may help to improve genetic testing, diagnostics and treatments in both veterinary and human patients.



#### **EQUATORIAL EQUINES**

Cornell launched its U.S. Virgin Islands (USVI) equine training program in May 2015 when Dr. Rolfe Radcliffe, lecturer of large animal surgery and emergency critical care, held an inaugural seminar on the subject of the pre-purchase exam in St. Croix. The biannual workshops, aimed at those working in the USVI's horse racing industry on St. Croix and St. Thomas Islands, will cover various facets of the management and care of horses. Only a handful of veterinarians work on the islands, and horse owners frequently lack access to reliable veterinary information. Yet, although most horse owners work other jobs and can dedicate only a very small budget to racing, it is a hobby they take extremely seriously, according to Radcliffe. "They're very interested in trying to do what's best for the animals, and they're happy to have this collaboration with Cornell going on," he says.



FD

DRS. ROBERT WEISS AND KRISTY RICHARDS

#### **BRINGING SCIENTISTS AND SURVIVORS TOGETHER**

Faculty in the Department of Biomedical Sciences have teamed with campus colleagues to receive a \$60,000 curriculum development grant through the **Engaged Cornell program** to train emerging cancer scientists to communicate and connect with patients and the public.

The project stems from an ongoing partnership between College scientists and the **Cancer Resource Center of the Finger Lakes**, a local organization that provides support services for cancer patients; graduate students and post-docs converse with cancer patients and survivors in a mutually beneficial collaboration. "It helps our students learn how to communicate effectively," says Dr. Robert Weiss, professor of molecular genetics and principal investigator on the project. "Many of our students doing cancer research have never directly interacted with a cancer patient, and this adds a human element to a disease that they study in molecular detail. Meanwhile, community members get direct interaction with cancer researchers, and gain better understanding of the science behind the treatments and latest discoveries."

Starting in the fall of 2015, the Engaged Cornell grant is helping to expand the initiative into a certificate of engagement program that will formally train students in scientific communication for the general public, and in social issues cancer patients face—including the psychology, economics, decision-making and patients' rights. "It gives students a chance to learn about the cancer experience from those who have been through it," says Weiss. Also collaborating on the initiative are Dr. Kristy Richards, associate professor of biomedical sciences; Dr. Bruce Lewenstein, professor of science communication; and Bob Riter, executive director of the Cancer Resource Center.

"MANY OF OUR STUDENTS DOING CANCER RESEARCH HAVE NEVER DIRECTLY INTERACTED WITH A CANCER PATIENT, AND THIS ADDS A HUMAN ELEMENT TO A DISEASE THAT THEY STUDY IN MOLECULAR DETAIL..."

—Dr. Robert Weiss

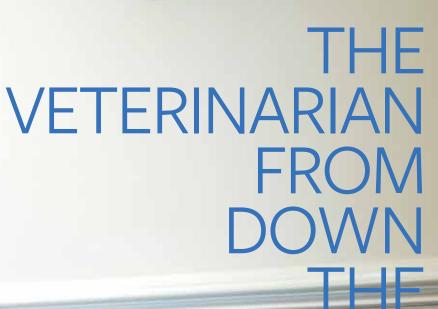


# IMPACT ALUMNI, DONORS AND FRIENDS



hen Dr. Matt Antkowiak '97, (pictured left) opened a veterinary clinic in Washington, D.C. nearly four years ago, H Street was an unlikely location. "It was a transitional neighborhood at best," the native of Buffalo, N.Y., says about the section of Capitol Hill known as the Atlas District. But Antkowiak wanted to become more fully part of the community from where he had been commuting for over a decade to work as an ER veterinarian at VCA SouthPaws Veterinary Specialists & Emergency Center in Fairfax, Va. His neighbors, in turn, welcomed the first veterinary clinic in the area with open arms. "We were one of the first daytime, walk-in businesses that wasn't a bar to thrive on the street," he says.

In the meantime, six full-time veterinarians and 30 staff members populate the 4,000 square-foot, full-service hospital, which is painted in bright colors and offers five cozy, stress-reducing exam rooms. The "Cornell Room" (Antkowiak's friend and business partner, veterinarian Christopher Miller, has a competing "Auburn University Room") is decked out in Cornell paraphernalia and mementos, including an "autobiography" in which a nine-year-old Antkowiak envisions his future life as a veterinarian. While the avid traveler and athlete, who describes his personality as "kinetic," took detours into journalism and acting in college, he has come full circle to not only live his youthful dream but make it part of the future of a now flourishing neighborhood. "I'd like to think we were part of helping H Street transition from what it was to what it's about to become," Antkowiak says.



"I'D LIKE TO THINK WE WERE PART OF HELPING H STREET TRANSITION FROM WHAT IT WAS TO WHAT IT'S ABOUT TO BECOME."

STREET

—Dr. Matt Antkowiak '97



# IMPACT ALUMNI, DONORS AND FRIENDS

"THE ROLE OF EXPANDING HORIZONS IN THE VETERINARY EDUCATION CANNOT BE UNDERSTATED. IT PROVIDES STUDENTS WITH AN OPPORTUNITY TO SEE THE ROLE OF ANIMALS AND VETERINARY MEDICINE THROUGH A NEW SCOPE."

—Dr. Karyn Havas '05



# CHALLENGE GRANT SUCCESS: ALUMNI ENDOW EXPANDING HORIZONS

key goal of the Cornell University College of Veterinary Medicine Alumni Association is to enhance Cornell student experience. In 2015, the Association donated to a program that does just that. The Expanding Horizons program helps veterinary students conduct six-to-ten week long research projects in developing nations, such as studying vervet monkey pathogen transmission in Malawi, or disease surveillance of domestic dogs in Botswana. This year Expanding Horizons became endowed thanks to matching funds from the Association. "The role of Expanding Horizons in the veterinary education cannot be understated. It provides students with an opportunity to see the role of animals and veterinary medicine through a new scope," says Dr. Karyn Havas '05, vice president of the Alumni Association executive board. She noted that few other veterinary universities, if any, have an endowed fund to support the enrichment of the veterinary student experience in such a unique way. "This was an opportunity for the Alumni Association to recognize the global scope of veterinary medicine and the role our students and alumni could play in contributing to animal care in non-traditional ways, or in traditional ways in new settings," Havas adds. "A program that contributes so much to our veterinary student body, and to the alumni that once benefitted from the same fund, deserved to be endowed."

### ALUMNI, DONORS AND FRIENDS HIGHLIGHTS:

- A generous gift from George Goldner and Nancy Krieg has dedicated Cornell's Farm Animal Hospital to their beloved black-and-white Hampshire pig, Nemo.
- A bequest of over \$4,000,000 from the estate of June Lanciani expanded the breadth and impact of a number of programs at the Cornell Feline Health Center.
- The remodeled College campus will honor several donors and their recent commitments, including Lefty's Plaza; the Tetlow and Roy Park Innovation Laboratory; Takoda's Run; the Richard R. Basom DVM '44 Reading Lounge; and the Don DVM '69 and Rita Powell Classroom.
- CUVS celebrated its first named space: an exam room by Elizabeth and Charlie Lynch; while CRES celebrated its first named space: the Burke Foyer.
- As part of Cornell's first ever Giving Day, the College had the best single day ever for online gifts, totaling \$112,000.

### FY2015

WAS A RECORD YEAR FOR NEW COMMITMENTS AND CASH GIFTS



# CHALLENGE GRANT SUCCESS: HELPING STUDENTS LEARN AND PETS THRIVE

This year, the Alumni Association provided matching funds for the **Healthy Pet Clinic program**, which gives first- and second-year veterinary students clinical training through peer-mentoring in healthy pet clinics. Students travel to disadvantaged communities both local and beyond to provide veterinary care. In 2015, a total of \$50,000 was raised by alumni and corporations, and was matched by the Alumni Association, ensuring that the Healthy Pet Clinic will continue to help both students and animals. "The demand for new veterinary graduates with hands-on experience in a practice setting is great. The Healthy Pet Clinic teaches the Cornell student these skills and places them in the 'most likely to hire' tier of graduates," says Dr. Malcolm Kram '74, president of the Alumni Association executive board. "This program helps meet the health care needs of pets in families that may not have the resources to visit a veterinary hospital or clinic for routine care—this program is a win-win for students, the community and the animals treated."

#### **CAYUGA SOCIETY MEMBERS:**

During the past year, the following people have shared with us that they have included the College of Veterinary Medicine in their estate plans:

Mr. Howell "Chip" Bixler and Mrs. Doris Bixler

Ms. Helen Blohm (CALS '72)

Mr. George Chronakis and Mrs. Barbara Chronakis

Alexander de Lahunta DVM '58, PhD '63

Ms. Sharon Fairchild

Mr. George R. Goldner and

Ms. Nancy Krieg

Dr. Elinor Miller (A&S '59, MD '63)

Mrs. Mary K. Phillips (A&S '50)

Mrs. Jane C. Ponty

Mrs. Helen B. Putre

Dr. Gilbert Schulenberg

Joseph B. Stuart DVM '55

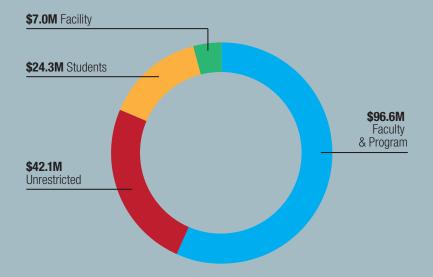
Dr. Peter J. Thaler (A&S '56) and Mrs. Loretta A. Thaler

Mr. S.F. Weissenborn (A&S '49, MBA '50)

# NEW ENDOWMENT FUNDS ESTABLISHED IN 2014-2015:

May Arrison Fund for Acupuncture
Marjory J. Butler Award for Research
Mini Mouse Research Fund
Ruth Mort Graduate Scholarship
Jerome Payton DVM '40 Scholarship
Veterinary Alumni Association Fund for
Healthy Pet Clinics
Veterinary Alumni Association Fund for
Expanding Horizons
Harold Zweighaft Estate Fund

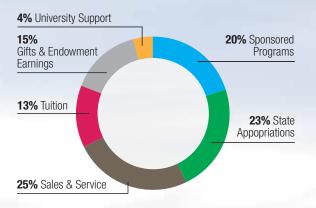
# CAMPAIGN TO DATE IN NEW GIFTS & COMMITMENTS (2006–2015) \$170M





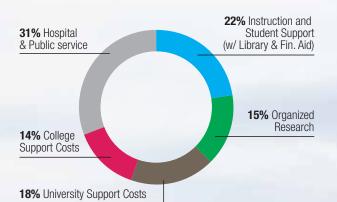


#### **REVENUES**



Fiscal 2015 Operating Revenues	\$ 153.0 1	million
University Support	\$ 5.3	4%
Gifts & Endowment Earnings	\$ 23.0	15%
Tuition	\$ 20.2	13%
Sales & Service	\$ 38.8	25%
State Appropriations	\$ 34.6	23%
Sponsored Programs	\$ 31.1	20%

#### **EXPENDITURES**



Hospital & Public Service	\$ 46.2	31%
Instruction and Student Support (w/Library & Fin. Aid)	\$ 33.5	22%
Organized Research	\$ 22.4	15%
University Support Costs	\$ 27.8	18%
College Support Costs	\$ 20.5	14%
Fiscal 2015 Operating Expenditures	\$ 150.4 r	nillion

# ENDOWMENT MARKET VALUE

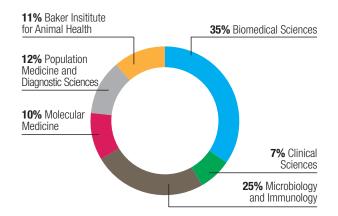


Fiscal 2015 Endowment Market Value	\$ 200.3 1	million
Student Aid	\$ 46.5	
Position Support	\$ 41.9	21%
Program Support	\$ 111.9	56%



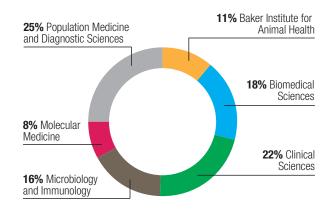
#### **GRANTS & AWARDS:**

#### **DOLLARS AWARDED, BY UNIT/DEPARTMENT**



Total	\$26,162,715
Population Medicine and Diagnostic Sciences	\$ 3,166,117
Molecular Medicine	\$ 2,640,841
Microbiology and Immunology	\$ 6,456,523
Clinical Sciences	\$ 1,881,463
Biomedical Sciences	\$ 9,081,416
Baker Insitute for Animal Health	\$ 2,936,355

#### NUMBER OF AWARDS, BY UNIT/DEPARTMENT



Total	189
Population Medicine and Diagnostic Sciences	47
Molecular Medicine	15
Microbiology and Immunology	31
Clinical Sciences	41
Biomedical Sciences	34
Baker Insitute for Animal Health	21

#### **NOTEWORTHY NEW AWARDS**

- John Schimenti, Alexander Nikitin: NYS Dept. of Health: Cornell Stem Cell and Transgenics Core Facility: \$2,071,120
- Michael Kotlikoff: NIH-National Heart, Lung, and Blood Institute (NHLBI): Vascular Precursors and Cell-Cell Signaling in Heart Vasculogenesis: \$387,813
- Brian Vander Ven: NIH-National Institute of Allergy and Infectious Diseases (NIAID): Exploiting Metabolic Toxicities to Identify Compounds that Inhibit Cholesterol Metabolism in M. Tuberculosis: \$387,500
- Yrjö Gröhn / Ynte Schukken / Michael Stanhope / Loren Tauer: USDA-National Institute of Food and Agriculture (NIFA) US-UK Collaboration: Mycobacterial Transmission Dynamics in Agricultural Systems: Integrating Phylogenetics, Epidemiology, Ecology, and Economics: \$99,954





REMEMBERING EMERITUS DEAN GEORGE POPPENSIEK 1918–2015



DEAN POPPENSIEK AT THE DEDICATION OF THE VETERINARY RESEARCH TOWER, 1974

# Cornell University College of Veterinary Medicine

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