

Cornell University
College of Veterinary Medicine

'SCOPES

FROM STETHOSCOPES | TO MICROSCOPES | TO THE SCOPE OF THE COLLEGE July 2013

conquering
cancer

'SCOPES

July 2013



- 1 A message from the Dean
- 3 From grade school to post graduate school
- 4 Developing veterinary scientists to bridge health needs
- 6 Behind the curtains ... translational oncology research
- 14 Bringing Bo back
- 16 Vision for the future
- 18 Bandit's battle
- 20 Leveraging the Annual Fund for the good of many
- 21 All smiles ... Reunion 2013
- 23 Class notes and In Memoriam

CORNELL UNIVERSITY COLLEGE OF VETERINARY MEDICINE

S2016 Schurman Hall
College of Veterinary Medicine
Cornell University
Ithaca, NY 14853-6401
Phone: (607) 253-3369
Fax: (607) 253-3740
E-mail: vetfriends@cornell.edu
Website: www.vet.cornell.edu; www.cuvs.org

'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.

OFFICE OF THE DEANS

Dr. Michael I. Kotlikoff, Austin O. Hoey Dean of Veterinary Medicine
Dr. Bruce Akey, Assistant Dean for Diagnostic Operations
Dr. Joel Baines, Associate Dean for Research and Graduate Education
Dr. Katherine Edmondson, Assistant Dean for Learning and Instruction
Dr. Susan Fubini, Associate Dean for Academic Affairs
Mr. Kevin Mahaney, Assistant Dean for Alumni Affairs, Development, and Communications
Mr. Paul Streeter, Assistant Dean for Finance and Administration
Dr. Alfonso Torres, Associate Dean for Public Policy
Dr. Lorin Warnick, Associate Dean for Veterinary Education and Hospital Director

OFFICE OF ALUMNI AFFAIRS, DEVELOPMENT, AND COMMUNICATIONS

Carly Hodes, Communications Specialist
Lyn LaBar, Assistant Director of Alumni Affairs and Development
Sheila Reakes, Annual Fund Director
Amy Robinson, Associate Director of Alumni Affairs and Development
Alison R. Smith, Major Gifts Officer
Stephanie Specchio, Director of Communications
Luanne M. Prosperi Stefanucci, Assistant Director of Development & Donor Relations; Baker Institute for Animal Health and Feline Health Center

VOLUNTEER LEADERSHIP

Ed von der Schmidt III DVM '79, President, Alumni Assoc. Executive Board
Dr. Philip Reilly '69, Chair, College Advisory Council
Stephen Ettinger '62, DVM '64, Chair, Annual Fund
David A. Behnke, Chair, Baker Institute/Feline Health Center Advisory Council
Mitchell Kornet '76, DVM '79, Chair, Dean's Leadership Committee
Elizabeth Lynch '90, DVM '95, Chair, Major Gifts Committee

'SCOPES JULY 2013

Editor: Stephanie Specchio

Designer: Robin Adams, Cornell University, University Communications/Marketing

Writers: Paula Aiken, Carly Hodes, Stephanie Specchio

Photographers: Carly Hodes, Lynn Luczkowski, Stephanie Specchio, U Photo, Karen Wagner, Alexis Wenski-Roberts

ON THE COVER: Dr. Vanessa Rizzo, a resident at the Cornell University Hospital for Animals, has spent a lifetime surrounded by cancer. Today, she's helping others calm the chaos that cancer can cause. Story on page 3.



In this issue of *'Scopes* we highlight progress being made by faculty members in understanding cancer. Cancer research, one of the four research focuses identified in the College's strategic plan, offers tremendous translational opportunities to improve animal and human health, as we begin to better understand the complex cellular alterations that converge to result in unrestrained cell growth. The programs highlighted here are a sample of research pursued in the Sprecher Cancer Institute and the Cornell Comparative Cancer Center, in which a unique comparative approach is taken to advancing our understanding of the genetic basis of the formation of tumors. While arising from many distinct molecular alterations, at its core cancer shares remarkable similarities in mammals, and the high incidence of specific tumors in certain animal breeds presents both a challenge and an opportunity as we begin to unravel cancer genetics.

Today, pioneering faculty work at the intersection of disciplines to study cancer from biochemical, genetic, epigenetic, and cellular perspectives. At the College, innovative thinking is leading to the development of new therapeutic targets, from the discovery of drugs designed to selectively silence epigenetically modified cells, to those designed to modify the metastasis machinery, and others that target the cancer stem cells that are the source of newly transformed cells.

Targeted therapies that attack the cellular process essential to a specific cancer hold the promise of markedly improving treatment effectiveness by selectively acting on cancer cells while leaving healthy cells and tissues relatively untouched, compared to traditional chemotherapy. These therapies, used in combination with traditional approaches of chemotherapy, radiation, and surgery, promise significantly improved survival rates and decreased treatment failures. Personalized medicine extends this approach even further with treatment plans that respond at an individual level, by considering the animal's and the cancer's genetic composition.

Of course it is also important to highlight the challenges associated with cancer research and to acknowledge the complexity, diversity, and tenacity of biological processes underlying tumor formation (neoplasia). Cancer cannot be traced to a single gene or mutation or toxic insult—its complexity mirrors that of

the cell itself. No single drug inhibiting one step within a network of converging molecular processes will be sufficient to “cure cancer,” but as our understanding and analysis of individual tumors improve, we will be increasingly effective at treating a range of these devastating diseases.

While there are limits to the aggressiveness with which we treat cancer in animals, it is clear that many of our current treatment options are combinations of drugs that kill all dividing cells, but fail to eliminate transformed cells, which regrow all too rapidly. Real cures will entail more specific treatments, and a just-over-the-horizon range of immunotherapeutics, targeted kinase inhibitors, and gene silencers will considerably expand the oncologist’s options in the coming years. Moreover, information that emerges from spontaneous tumors in animals provides an outstanding opportunity to understand the complex genetics underlying tumor development in people, where the genetic diversity of individuals is a barrier to gene discovery. Cornell’s prioritization and investments in cancer research recognize these opportunities to transform the treatment of neoplasia in animals and people.

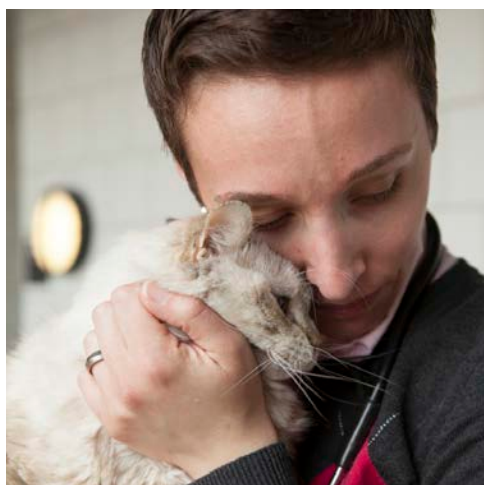
The answers will not come easily, but the possibility of a future where cancer is increasingly controlled—as the articles in this issue of ‘Scopes demonstrate—surely exists.

Cordially,

A handwritten signature in black ink, reading "Michael Kotlikoff". The signature is fluid and cursive, with the first name and last name clearly legible.

Michael I. Kotlikoff, VMD, PhD
Austin O. Hooey
Dean of Veterinary Medicine





From grade school to post graduate school

With as much conviction as one can muster, Dr. Vanessa Rizzo believes that even when the death grip of cancer has taken hold, there can be value to taking steps that will postpone the inevitable. To do this with as little pain and as much quality as possible, people and pets need skilled oncologists, and although Dr. Rizzo's path to veterinary school was not necessarily straight, once enrolled, her course to helping people deny cancer's devastation has been scalpel-sharp.

A second-year oncology resident at the Cornell University Hospital for Animals, Dr. Rizzo is both a teacher and a student. Sharing her knowledge with veterinary students and those completing one-year internships, she finds satisfaction in preparing more minds to tackle the amazing and confounding disease known as cancer. As a student herself, she says that Cornell's residency program is one of the best in the nation.

"I feel so grateful to have been accepted into this program," said Dr. Rizzo. "And if I'm good at my job it's only because I have an amazingly supportive team helping me. Everything I do for my patients and my clients is done after consulting with those in the oncology service and sometimes after consultations with doctors and staff from other services as many of our patients don't just have cancer: they have other diagnoses that need to be addressed so that we can help them maintain a good quality of life."

The residency program at Cornell is the final three years of a 12-year quest to become board-certified in a specific area of medicine. The additional training provides residents with a high level of proficiency in the clinical discipline. Each program allows the resident to meet the post-graduate education requirements of the national governing board related to that discipline as well as to gain experience in professional veterinary medical education and in teaching. In addition to the oncology residency, the College offers more than a dozen residency programs and has approximately 60 residents enrolled every year.

Cancer has special significance for Dr. Rizzo as she grew up surrounded by the disease: her grandmother died of cancer before she was born; her great aunt survived several kinds of cancer; she watched a school friend deal with cancer in the eighth grade; a family friend died of lung cancer when she was 16; her mother is a breast cancer survivor; and her brother-in-law survived brain cancer.

"As a child, I had a rudimentary understanding of cancer as a disease," said Dr. Rizzo. "I knew that sometimes you died and sometimes you didn't. My first cancer case as a veterinary student opened my eyes. I started reading about the biology and pathophysiology of cancer and was hooked. Although you can simplify the condition by saying that cancer develops when cells go haywire, it's a multitude of different diseases, each with its own microenvironment and behavior."

These behaviors can make life difficult. As a specialist, Dr. Rizzo hopes to make horrible days a little better by being as informative and honest as possible with her clients. Long-term, though, Dr. Rizzo dreams of changing the prospects for those targeted by cancer through life-changing comparative clinical research initiatives.

"When animals naturally develop cancer, the knowledge that we gain from treating these animals has enormous potential to help develop new treatments for children," said Dr. Rizzo. "Dogs and children share many of the same diseases. We need to do a better job of sharing data between the species. Completing this residency will help me do that."



Developing veterinary scientists to bridge health needs

From the minutia of microscopic cells to the mind-expanding sessions that illustrated unconsidered career options, Cornell's Leadership Program for Veterinary Students was life-changing for Jane Park, a member of the College's veterinary class of 2015. With just a handful of research training programs tailored for aspiring veterinarians in existence, competition is intense. Cornell selects fewer than 30 students each year from an international pool of 90 applicants.

"Cornell's program provides students with learning experiences that clarify and reinforce their commitment to careers in science," said Dr. John Parker, program director and associate professor of virology. "The program is distinguished by a tradition of excellence that spans 24 years. During this time, more than 550 alumni have participated. These individuals have come from 62 veterinary colleges in all parts of the world and many, as we had hoped, have become scientific leaders within the veterinary profession."

Park set her sights on Cornell's program because she knew that she would get phenomenal training in research techniques as well as tips for preparing for graduate training. Park expects to earn a doctoral degree after completing Cornell's veterinary program and said she went into the experience with high hopes.

"Even my expectations didn't do the program justice," said Park. "I walked away with many skills I could use to succeed in a multitude of possible career paths."

From Long Island, Park came to Cornell's veterinary program after spending time at the Brookhaven National Laboratory, also in Long Island, where she worked in a radiation and oncology laboratory alongside physicists, veterinarians, and human medical doctors to develop a unique microbeam radiation therapy to more accurately target tumors. Through this introduction to both cancer research and the power of multiple perspectives, Park gained a deeper understanding of the One Health initiative while at Brookhaven.

"Research bridges the various medicines," said Park. "I saw that at Brookhaven and was reminded of it again during my Leadership experience at Cornell. Although we are often behind the scenes, veterinarians have critical knowledge when it comes to solving public health issues like West Nile virus and other zoonotic diseases. Of course society needs veterinarians who offer general practice services. But we also need veterinarians who are leaders in government, academia, industry, and research."

In just 10 weeks, Cornell's Leadership Program for Veterinary Students presents career opportunities in all of these industries and covers

issues that range from ethics and creativity in science to designing effective research programs and picking appropriate professional mentors. Participants meet with representatives of organizations like the National Institutes of Health and the Walter Reed Army Institute of Research and Naval Medical Research Center and complete a variety of workshops and modules in Ithaca and Washington D.C.

Research, though, is the major focus of Cornell's program. Scholars pursue individual research projects under the guidance of Cornell faculty members who are all highly successful scientists and experienced mentors. The University's world-class research facilities and unsurpassed intellectual environment support the scholars' research investigations.

Park worked in Dr. Scott Coonrod's laboratory, characterizing an enzyme that may be implicated in the presence of squamous cell carcinoma. Although she wasn't able to statistically confirm any patterns, Park said she found trends that suggest there may be a relationship between the presence of the enzyme known as PADI2 and squamous cell carcinoma, one of the more common forms of skin cancer.

"More than the end results, though, I learned new techniques and perfected skills that I can use at the bench for the rest of my career," said Park. "The Leadership Program is multi-faceted and life-changing."



behind the curtains

TRANSLATIONAL ONCOLOGY RESEARCH



| RESEARCH

YEARS OF RESEARCH HAVE PAVED THE PATH TO THE MANY SUCCESSES WE SEE IN VETERINARY EXAM ROOMS TODAY. RESEARCHERS AT CORNELL'S COLLEGE OF VETERINARY MEDICINE ARE LAYING THE BRICKS FOR HEALTHY LIVES, ACROSS MANY SPECIALTIES, INCLUDING ONCOLOGY, WHERE BETTER CANCER TREATMENT AND PREVENTION STRATEGIES ARE DIRECT OUTCOMES OF TRANSLATIONAL RESEARCH CONDUCTED AT CORNELL. WE HOPE YOU ENJOY THE FOLLOWING EXAMPLES OF JUST SOME OF THE ONCOLOGY RESEARCH HAPPENING AT THE COLLEGE.

UNCOVERING CANCER'S ORIGINS, UNLOCKING EARLIER DETECTION

MEET...DR. ALEXANDER NIKITIN

The most common and aggressive type of ovarian cancer, ovarian carcinoma, leaves a dark trail. Science has learned too little and most women learn too late that they have it to effectively treat the deadly disease. Recently, College scientists have found ovarian carcinoma's first proven origin cells and uncovered clues for finding similar sources of other cancers. The study opens paths for new screening methods to detect cancer earlier and increase treatment chances in the ovaries and other parts of the body.

Most organs, including the ovaries, have stem-cells, which help healing and development, but many cancers start when such cells go astray. Using a novel cell location technique never before used in ovaries, the study uncovered a nest, known as a niche, of particularly cancer-prone stem cells located in the ovaries where different tissue types meet. It provides the most direct proof yet that vulnerable stem cells can nest near such tissue junctions, which occur throughout the body.

"Poor understanding of ovarian cancer's development has posed the biggest roadblock to helping its victims," said Dr. Alexander Nikitin, pathology professor at the College and leader of the University's Stem Cell Program. "We have found what is very likely to be the source of cells from which ovarian carcinoma arises, as well as the strongest suggestion yet that cancer-prone stem cells can nest in tissue junctions. This could spur new discoveries of cancer-prone stem cell niches throughout the body, revealing new ways to screen for and diagnose several different cancers."



STOPPING CANCER'S SPREAD

MEET...DR. RICHARD CERIONE

Cancer cells must prepare for travel before invading new tissues, but the results of research at the College have found a possible way to stop these cells from ever hitting the road. The lab of Dr. Richard Cerione, Goldwin Smith Professor of Pharmacology and Chemical Biology at Cornell's College of Veterinary Medicine, identified two key proteins needed to get cells moving and uncovered a pathway that treatments could block to immobilize cancer cells.

Metastasis relies on cell migration, the ability of some cells to move. Observing breast cancer cells in culture, Dr. Cerione's lab found that cancerous cells become hyperactive invasion vehicles by using a protein called tissue transglutaminase (tTG) together with other proteins like wheels, poking them through the surface to form a leading edge that pulls the cell forward. To get those wheels to the leading edge, they need another protein to roll them there—a chaperone protein called heat-shock-protein-70 (Hsp70).

behind the curtains

BRIDGING THE DIVIDE

MEET...DR. NEDRA HOLMES

Some veterinarians dedicate their lives to today's patients; some researchers work toward tomorrow's discoveries. Other veterinary scientists bridge the roles by doing both, working on translational research designed to equip clinics with new tools to help patients.

Dr. Nedra Holmes, a Cornell Clinical Fellow, is building such a bridge. Combining perspectives from her imaging residency at Cornell University Hospital for Animals (CUHA) with comprehensive research training in the lab of Dr. Robert Weiss, professor of biomedical sciences, she is using molecular imaging to investigate new diagnostics and therapy targets for lung cancer.

More people die from lung cancer than from any other cancer type, according to the Centers for Disease Control and Prevention, but early intervention dramatically increases the chances of survival. Collaborating with researchers and clinicians on Cornell's Ithaca campus and the Weill Cornell Medical College Citigroup Biomedical Imaging Center in New York

City, Dr. Holmes combines two imaging techniques to study metabolic patterns in tumors as a means of diagnosis and to better understand how they form.

Computed tomography (CT) uses x-rays to produce images more detailed than radiographs, while positron emission tomography (PET) allows non-invasive in-body imaging of molecular processes. By using both techniques on tumors to reveal their metabolic patterns, Dr. Holmes is exploring the differences in how benign and malignant tumors burn energy and the role played by Sirtuin 5, a protein important in metabolism that gets overexpressed in many human cancers.

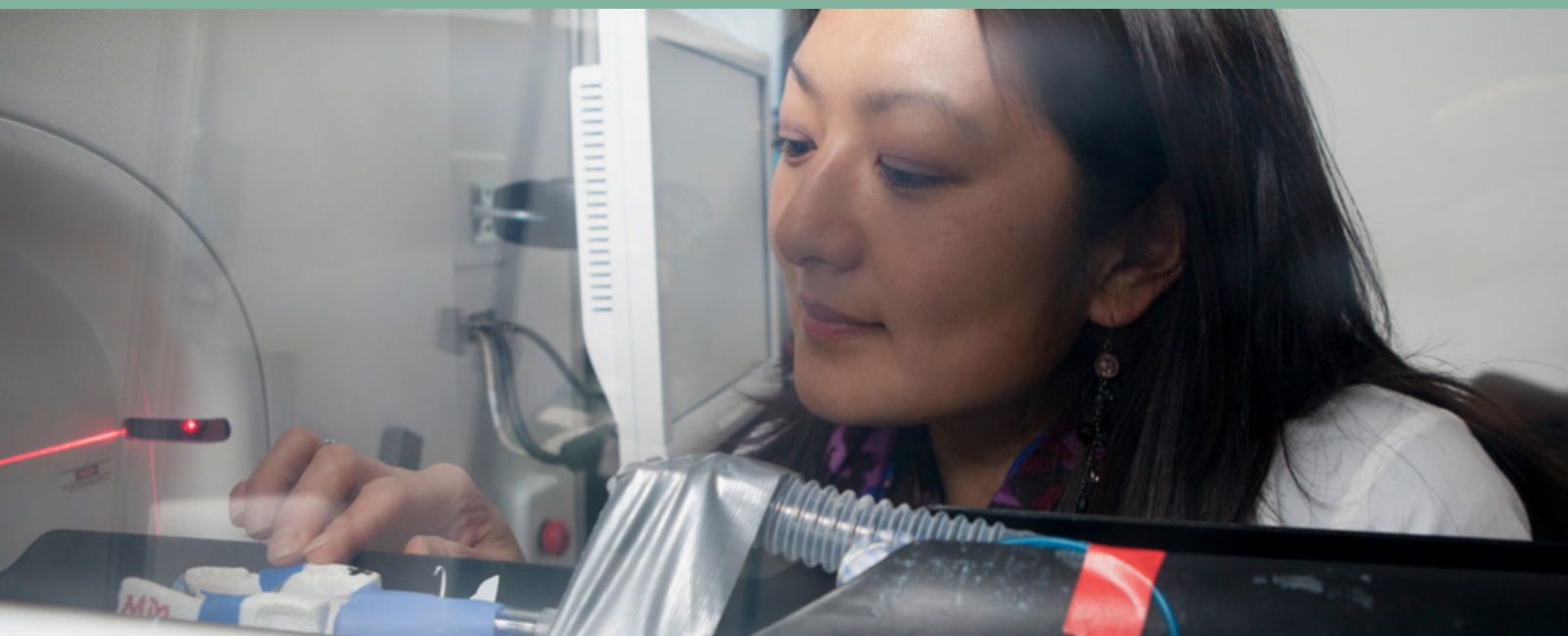
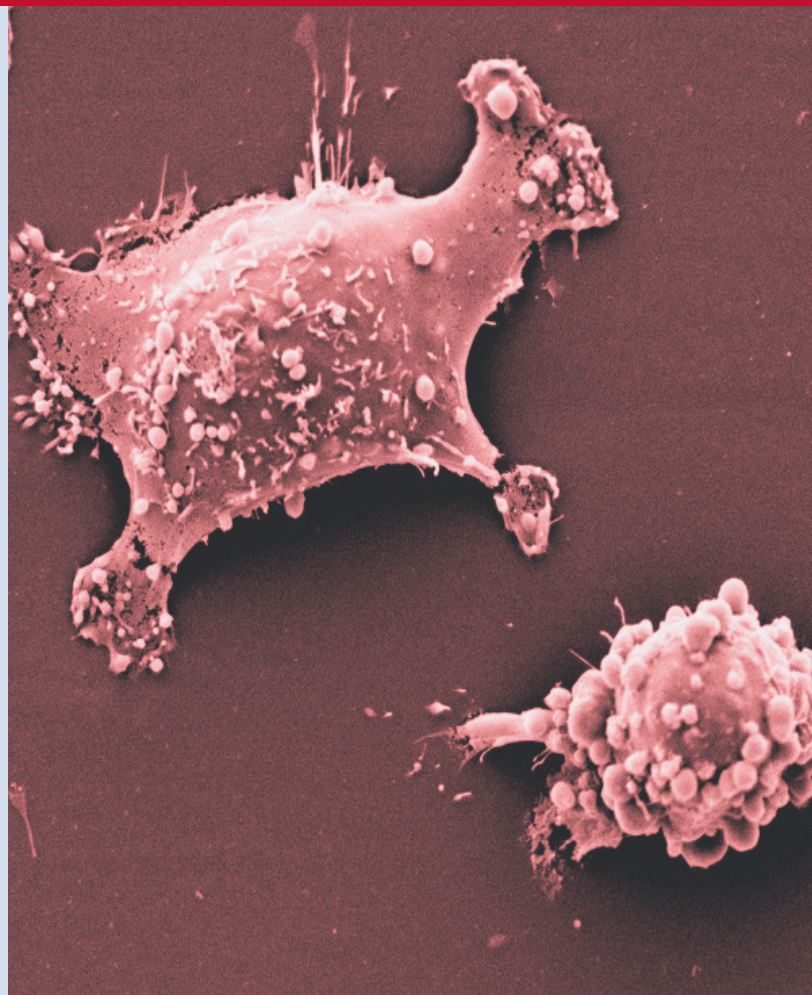
"We think this protein may be responsible for a lot of the metabolic hyperactivity that drives cancer cells' growth," said Dr. Holmes. "Molecular imaging techniques will help reveal how this protein works in healthy and unhealthy cells. Our hope is that, by inhibiting this protein in cancerous cells, we may be able to slow or stop tumor growth."

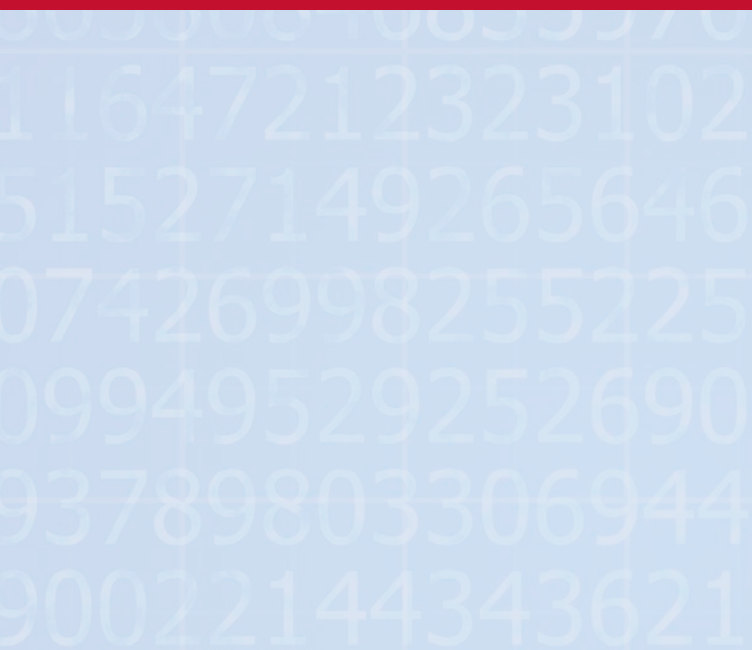
"If we can better understand how Hsp70 influences tTG, we can find ways to modulate that interaction to immobilize cancer cells and keep them from becoming invasive," said Dr. Cerione.

Meanwhile his lab discovered another more insidious way cancer propagates: by sending surprise packages that turn normal cells cancerous. Dr. Cerione's lab demonstrated the parcels' cancer-causing powers, described how they are made, and revealed a way to jam production. Treatments that follow suit could slow tumor growth and metastasis.

Remote recruiting through an inter-cellular mail system allows cancer cells to grow their ranks without having to move. While most cells communicate through substances that stimulate growth and hormones, cancer cells and stem cells use microvesicles, which are stuffed with unconventional cargo that boosts the survival and growth rates of recipient cells and can completely change their form and function.

"Even if we immobilize cancer cells, as long as they can make these microvesicles they can continue spreading cancer," said Dr. Cerione. "Treatments targeting the microvesicle production pathway we've outlined could have a real impact on slowing cancer progression."





behind the curtains

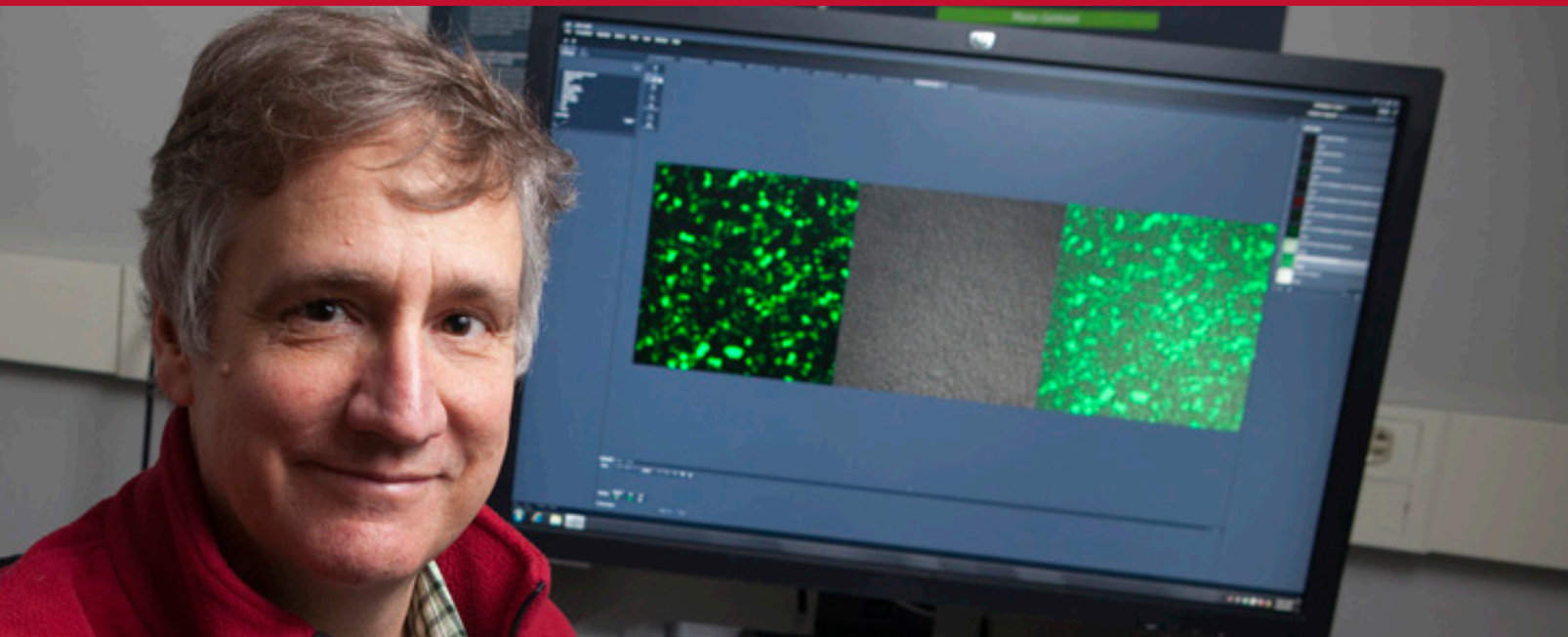
the Wilpon challenge

Supporting cancer breakthroughs with novel research and intense training programs

In 2008, the Wilpon Family Foundation established a research professorship in cancer biology at the Baker Institute, a position held by Dr. Scott Coonrod since its inception. Fueled by Judy Wilpon's long-standing interest in animal health and her personal commitment to advancing the diagnosis, treatment, and prevention of cancer, the gift sets the stage to permanently endow the position. The Baker Institute is committed to raising additional funds up to \$1 million to match the generosity of the Wilpon family. To date, more than \$600,000 has been raised.

The Wilpons' gift also provided the Sprecher Institute for Comparative Cancer Research with challenge funds that will match dollar for dollar (up to \$1 million) gifts to permanently endow and name two oncology residencies, like the position that Dr. Vanessa Rizzo (story on page 3) holds.

For more information on how to help support Dr. Scott Coonrod's groundbreaking work (story on page 11) or positions like Dr. Rizzo's, please contact Kevin Mahaney at km70@cornell.edu.



A NUMBERS GAME — NEW DRUG SHOWS PROMISE IN BLOCKING TUMOR GROWTH

MEET...DR. SCOTT COONROD

There are hundreds of kinds of cancers, and although no two are exactly alike, at the core, they all have one weapon in common: fruitful cells that multiply out of control and are destined to overtake healthy cells. Dr. Scott Coonrod and his team at the College's Baker Institute for Animal Health are exploring new compounds that can shut down one of the main tools cancer cells use to turn on genes that cause rapid cell growth.

His group is among the pioneers using cancer epigenetics to make discoveries like these. A relatively new field, cancer epigenetics investigates chemical changes in our genetic material and the proteins that regulate when and how a gene is turned on. Cancer epigenetics researchers have found that in tumor-prone cells, certain modifications to small clusters of proteins in the cell's nucleosome appear to be stuck in the "on" position for

genes involved in cell proliferation, leading to tumor growth and eventually metastasis.

"One of our priorities is to find new drugs that block the activity of the enzymes that lead to these modifications and then test whether these new 'epigenetic inhibitor' drugs can block cancer growth," Dr. Coonrod, associate professor, said.

Toward that goal, the Coonrod team has set its sights on an epigenetic enzyme nicknamed PADI2. The team's research confirmed the expression of this enzyme in the mammary gland and found that production of this enzyme is regulated by estrogen. They also found that PADI2 works in concert with estrogen to turn on proliferation genes by placing a new chemical, citrulline, at genes targeted by PADI2 and estrogen. Dr. Coonrod's team also made the very recent discovery that, in addition to es-

trogen receptor-positive breast cancer (more than 75 percent of all breast cancers), PADI2 activity appears to be linked to other forms of breast cancer, including HER2-positive breast cancer, which accounts for about one of every five breast cancer cases.

"We know that following removal of the primary tumor, many women take drugs such as Tamoxifen or Trastuzumab to prevent tumor recurrence," said Dr. Coonrod. "However, most women eventually become resistant to these drugs. Therefore, there is a critical need to develop new drugs that can block these cancer pathways. We believe that PADI2 may represent just such a drug, and we are currently trying to move this drug through the cancer drug development pipeline so that the inhibitors can be used to treat both human and companion animal cancers in the not-too-distant future."

A CANCEROUS CONUNDRUM: WHEN WILL CHEMOTHERAPY WORK?

MEET...DR. ROBERT WEISS



behind the curtains

CANCER SCIENTISTS TALK LIFE—AND SHOP—WITH CANCER PATIENTS

Program connects researchers with those their work benefits

In difficult situations, talking often helps. It works best, of course, when there is someone listening. A new initiative connects Cornell scientists studying cancer with people living with cancer. As the program has unfolded, illustrations of the real-time, real-life impact of cancer and cancer research have developed shared understandings that have reinvigorated the passion Cornell scientists bring to the bench and have generated newfound hope for those waiting for answers.

Conceived by Bob Riter, director of the Cancer Resource Center of the Finger Lakes, the program connects doctoral and post-doctoral students with cancer patients, survivors, caregivers, and family.

"Many of Cornell's scientists-in-training studying cancer do not have an opportunity to get out of their laboratories and meet individuals directly affected by the disease that they are researching," said Riter. "People with cancer want scientists involved in cancer research to understand that they are more than cells or molecular pathways. They are people first."

Toward this end, eight people engaged in cancer research at Cornell have been attending various support group meetings sponsored by the Cancer Resource Center.

"The need for our research programs to succeed and translate at some point into a treatment is so clear when you listen to stories about cancer patients' lives," said Dr. Joanna Mleczko, a post-doctoral student in Dr. Robert Weiss' lab at Cornell who is looking for potential drugs to treat cancer. "As scientists, we are working on very intricate pieces of the puzzle. It is easy to lose sight of the big picture. The opportunity to really see the impact and the anxieties and the challenges that cancer patients face with treatments and the related side effects is powerful motivation."

When some cancers strike, chemotherapy seems to be omnipotent. Other times, the deadly cells render the therapy powerless. Understanding the molecular and genetic mechanisms at the root of these two scenarios has the potential to transform our understanding of cancer biology and yield important insights for how to treat various cancers.

Dr. Robert Weiss believes that one of the keys to understanding the different driving forces in cancers that respond to chemotherapy and those that don't may lie in the ability of cells to mount an effective DNA damage response (DDR). In studies funded by the NY State Stem Cell Program (NYSTEM), he

and his team are investigating how this critical regulatory process operates in stem cells, theorizing that the findings will have implications for the prevention and treatment of cancers originating from stem cells.

"We have focused our work on testicular germ cells for several reasons," said Dr. Weiss, associate professor of molecular genetics. "They share many biological properties with the stem cells being developed for therapeutic applications. They are amenable to experimental analysis. And, they are the precursors to testicular germ cell tumors (TGCTs), the most common cancers of young men and

a cancer type that is remarkably sensitive to chemotherapy."

The team is building on current evidence that suggests that the DDR operates differently in testicular germ cells and other stem cells than in other tissues.

"We hypothesize that these unique characteristics originate from the stem cell-like properties of the germ cells from which testicular germ cell tumors originate and that these properties influence how these cancers develop and respond to therapies," said Dr. Weiss. "If we can understand why and how chemotherapy is successful in some cases, we can work to replicate the situation in cases where it has not been successful."

Equally powerful will be the opportunity for cancer patients and survivors to learn about new directions in cancer research.

"Members of our support groups are eager to learn about the advances in cancer research," said Riter. "Cancer is frustratingly complex, but thanks to basic science research, cancer treatments are becoming more effective and less toxic."

Currently the investigators are attending support group meetings. They listen and share information about the pathogenesis of the disease, explaining, for instance, what tumor suppression is and how damaged DNA leads to tumors. In addition, planning for a yearly research symposium is underway. The event will provide a forum for scientists to explain their work in ways that will generate public understanding and support—a

skill increasingly necessary for scientists who rely on external funding to sustain their work.

"Overall, the program provides an opportunity for scientists to explain their work in lay language, expose them to the

concerns of cancer patients and survivors, and educate those living with cancer about new directions in cancer research," said Riter. "It's a mutually beneficial arrangement with meaningful outcomes for all involved."



Bob Riter (right) pictured with (from left) Sachi Horibata, Jack Stupinski, Joanna Mleczo, and Claire Anderson.

bringing Bo back



Picking up Bo for the first time the day before a charity auction she was chairing back in 2005, Kristin Selvala had meant to keep the yellow lab pup for just one night. He was supposed to be the top prize, but the Selvala family quickly fell in love. Finding another puppy to auction at the last minute, they adopted Bo for good. He grew into a happy adult who loved to eat and run. When a little black lab brother joined the house they became fast friends.

"Bo and his brother played so much you'd think they'd never run out of energy," said Selvala. "But two years later Bo started seeming tired. He lost his appetite. One day he was so ill he crept under the bushes by the house and stayed there all day. It was so sad to see him in that condition. When our vet did an ultrasound and saw his abdomen had swollen, he said to get to a specialist quickly."

The Selvalas brought Bo to Cornell University Veterinary Specialists (CUVS), Cornell's emergency and specialty care satellite hospital in Stamford, Conn. Tests revealed devastating news: Bo had hepatic (liver) lymphoma, a blood cancer from which few dogs recover.


"We were on a very tight budget, but the thought of losing him was overwhelming to us," said Selvala. "We were willing to do whatever it took to save him."

Close to death, Bo began chemotherapy treatment under the care of CUVS oncologist Dr. Gerry Post.

"Bo was incredibly sick," said Dr. Post. "Cancer throughout his liver and spleen was putting pressure on his stomach and making him too nauseous to eat. The prognosis for his type of lymphoma is very poor when treated with standard chemotherapy. So we decided to try a different method."

Years ago Dr. Post had published research showing that different types of lymphoma respond differently to treatments. Using a new treatment protocol that Dr. Post's research had shown to be more effective for Bo's type, CUVS staff helped Bo beat lymphoma and turn his health around. Through the combined effort of critical care, internal medicine, and oncology, Bo regained his appetite and got back on his feet. After a year of treatment, the cancer regressed. Now Bo has lived more than a year cancer-free, with fully renewed appetite, energy, and love of play.

"Our family saw Bo come back to life," said Selvala. "The CUVS staff members are truly amazing. They're like an extended family for him. Bo never once hesitated to run through the door and say hello. It's a fantastic place; I recommend CUVS to all my friends who need emergency or specialty care. They supported him and me holistically; they're so kind and loving, and I truly believe that made a big difference in bringing Bo back."



FROM THE BRINK OF DEATH
IN CANCER'S THROES TO A
TRIUMPHANT RETURN TO HEALTH
AND FAMILY, BO SELVALA BEAT
TERRIBLE ODDS SURROUNDED BY
LUCK AND LOVE.

Vision FOR THE Future



| SERVICE

When cancer first emerged to threaten her sight, Mariclare didn't like people. The huge Belgian horse spent her first 12 years in an abusive situation, severely confined and destined for slaughter.

She escaped that fate when she was bought by Susan Wagner, president of Equine Advocates Rescue and Sanctuary, embarking on a new life at the group's equine sanctuary in Chatham, N.Y.

"At first Mariclare was very difficult," said Wagner. "She hated being handled. She was afraid of everything and everyone."

But in 2007, Wagner got close enough to notice something wrong with her left eye. Her local veterinarian suspected squamous cell carcinoma (SCC), a kind of malignant tumor common in Belgians. Wagner began treating Mariclare at home with mitomycin, an anti-tumor ointment. At first the growth shrank, but later started rapidly expanding. So Wagner drove the struggling 1600-lb horse to the Cornell University Hospital for Animals for surgical treatment.

"She was terrified and her left eye looked dreadful," said Dr. Nita Irby, large-animal ophthalmologist. "We found two large masses so extensive they couldn't be removed without losing the eye."

Mariclare's situation darkened further when Dr. Irby found more suspicious areas in her right eye. One raised cauliflower-like growth looked particularly like another SCC tumor. With all cards stacked against Mariclare's sight, Dr. Irby's team came up with a plan to remove her left eye after using a mask to adapt her to loss of vision on that side. Meanwhile, they would save her right eye right away through surgery and strontium-90 radiation therapy, using a radioactive probe to apply large doses of radiation.

"Radiation requires general anesthesia, a risky procedure in very large animals like Mariclare," said Dr. Irby. "We tried to choreograph everything to minimize the time she'd be under."

After careful anesthesia, a thorough exam revealed another tumor in her right eye. They conducted a CT (computed tomography) scan to confirm that no tumors were invading the bone or the lymph nodes in her head. Next they performed specialized surgeries to remove the

right eye's tumors. Biopsies confirmed all the tumors were SCC.

But radiation had to wait until the surgery on the left eye because Mariclare's blood pressure began dropping. Awakened for safety's sake, she went home to recover. There Wagner helped her acclimate to being blind on the left side with the impending loss of that eye by maintaining in place an eye mask Dr. Irby prescribed. She soon returned to Cornell, where the team successfully removed her left eye and radiated the right.

Rechecking Mariclare's eye every six months, Dr. Irby found, removed, and irradiated a new small mass in 2010. Today, five and one half years after the journey began, Mariclare is cancer-free, able to see, and more at peace with people.

"I think the world of Dr. Irby," said Wagner. "She did what was right, what she felt Mariclare needed, and it worked. Since meeting her, Mariclare has changed. She approaches me in the field. When we pull a truck up to bring her for a checkup she gets right on. It's a total turnaround."





Abandoned in the backyard barn of a vacant house, Bandit and his brother faced a difficult first few weeks of life. But their dimming horizons brightened when a friend of Pam Zygmunt, a mail-handler in Utica, N.Y., discovered the tiny orange kittens in 2002. Upon seeing the pair, Zygmunt fell in love and took them in.

When he first arrived at his new home, Bandit's body was battling a severe upper respiratory infection.

He lost an eye to the disease, but with veterinary care and determined dedication Zygmunt was able to nurse him back to health. Bandit and his brother acclimated well to their new home, a frequent refuge for rescued pets. Three happy years passed before Zygmunt noticed something wrong with Bandit's ear.

"Bandit thinks he's the king of the house. He's a very laid back cat and nothing seems to bother him," said Zygmunt. "He and his brother like to tussle, so I figured it was just an injury. But when I took him to a

nearby vet, we found it was cancer. They had to remove half his ear."

That staved off the cancer for a while, but it soon returned. This time Bandit lost the rest of his external ear. The best next step, Zygmunt's vet told her, was seeing the cancer specialists at Cornell University Hospital for Animals.

There, under the guidance of Dr. Margaret McEntee '86, professor and section chief of oncology, the oncology team made a plan to take Bandit's battle to the next level.

Bandit's battle

triumph with time for toast

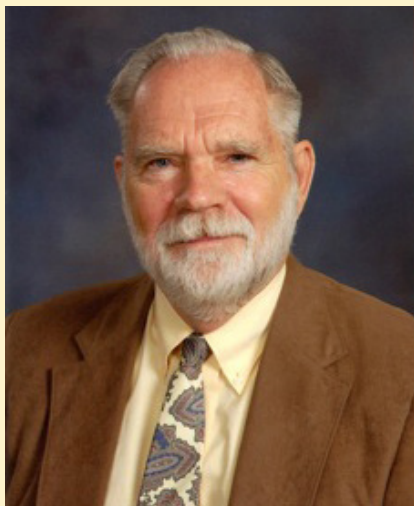
"We ran several tests and analyzed the area where his ear had suffered from recurrent fibrosarcoma," said Dr. McEntee. "Given the results and his history, we determined Bandit's best option was definitive radiation therapy followed by another deeper surgery to remove more internal parts of the ear. He had to stay with us in the clinic for his month-long course of radiation."

Being away from Bandit was tough for Zygmunt, who lived and worked two hours too far from where he'd get his life-saving care.

"I cried when I first dropped him off for the month," Zygmunt recalled. "A lot of people have two-legged children. I have four-legged children. My pets are my life and I had to leave him. But every single night a student called me and let me know what was going on. They gave him blankets, toys, and love. He was spoiled rotten down there. They were excellent, wonderful to him, I couldn't have asked for a better experience."

This fall Bandit and Zygmunt will celebrate his fifth year of living without cancer. He's now a one-eyed, one-eared, cancer-free cat and doesn't mind a bit.

"I'm so happy to have him back, and he's happy as ever," said Zygmunt. "He can still hear so well that when he's lounging in the living room and the toaster pops from across the house he runs to get a bite."



Dr. Christian Gries '63 believes that we are here to take care of this earth and each other. Of course there are many ways to fulfill this opportunity, and Dr. Gries is always on the look-out for a creative approach to accomplish this higher purpose.

When he had the chance to support both a “well-deserving organization” and pay tribute to his classmates and their time as Cornell veterinary students, Dr. Gries was quick to say yes to a gift to the College’s Annual Fund in honor of his 50th Reunion.

“I hope that the gift will help the College set someone on the path to as good a life as I have had and am having,” said Dr. Gries, who was in the last graduating class that attended Cornell tuition-free. “My Cornell degrees [DVM and PhD] have provided me and my family with a very fruitful life. It feels good to give something back, especially knowing that it will be put to advantageous use.”

The College of Veterinary Medicine’s Annual Fund is the best way for friends and alumni to help keep the University’s founding vision alive. These gifts enable today’s leaders to meet the greatest needs of the College and to seize important and often time-sensitive opportunities that may be as mind-expanding as additions to the collection in the Flower-Sprecher Veterinary Library or as life-giving as new equipment in the Cornell University Hospital for Animals.

“Gifts to the Annual Fund are powerful in these challenging economic times,” said Dr. Michael I. Kotlikoff, Austin O. Hooey Dean of the College of Veterinary Medicine. “As it becomes increasingly difficult to rely on traditional funding sources, the power of gifts to the Annual Fund—those that provide much needed flexibility and allow the College to take advantage of strategic opportunities—are particularly meaningful. Dr. Gries’ gift and others like it will allow us to continue to improve the Cornell experience.”

After graduating at the head of his veterinary class and earning the Borden Scholarship Award, Dr. Gries immediately pursued a doctoral degree in pathology, completing the Cornell program in 1966. With 12 years of college education behind him, he decided to get his “hands dirty,” working in Catskill, N.Y., for four years in a mixed animal practice where he treated species that ranged from kittens to camels. Following that, he shifted his focus, returning to Cornell for seven years to work in the College’s diagnostic laboratory. Ultimately, he accepted a position as a board certified pathologist with Eli Lilly and Company in Indiana, where he worked for nearly 25 years. In retirement since 2000, Dr. Gries said he is busier than ever.

Combining three hobbies—travel, photography, and music—has proven to be delightful and fulfilling. He and his wife, June, have been to Italy, the Greek Islands, Russia, Estonia, Austria, Turkey, France, England, Ireland, Switzerland, and cruised the Danube. All of their journeys are photographically chronicled, with thousands of digital images set to music and hours of video stored on hard drives and Blu-ray discs, for his three children, eight grandchildren, and friends to enjoy.

“The ability to enjoy life is a blessing,” said Dr. Gries. “A good education and a lot of perseverance are helpful in achieving this.”

Luckily, Dr. Gries has both.

reunion²⁰¹³



Although the weather may have been a bit soggy, spirits were warm and sunny at Reunion 2013! Alumni and guests enjoyed the DVM Welcome Reception with opening remarks offered by Dean Michael I. Kotlikoff and Cornell's President, David Skorton; the State of the College; tours of the Animal Health Diagnostic Center, the Cornell University Hospital for Animals, and the Teaching Dairy Barn; the annual BBQ; and the always popular Class Dinners.



Congratulations to the Class of 1963! With 61% of the class making a gift, the Class of '63 took the Dean's Cup this year. The Cup is awarded to the Reunion class out of school 50 years or fewer, with the highest percent of the class making a gift to the College of Veterinary Medicine. Class of '63 co-chairs Frank Powell and Richard Coburn are to be congratulated for their leadership and for their determination to have the Class of '63 join the distinguished group of awardees over the years. The Class of 1963 also stood above all other Reunion classes in raising the most money for the College: \$41,207. The total raised by all College of Veterinary Medicine Reunion classes was \$159,425 from 32% of alumni celebrating a Reunion year. Our thanks go to each and every one of you who supported the College this year with a gift. *Your support truly makes a difference.*

Please visit www.vet.cornell.edu/alumni/reunion to see more pictures from Reunion 2013 and mark your calendars for Reunion 2014: June 5-8.





class notes

Class of 1931

Elmer Woelffer, DVM

Deceased 1995

Sponsored by the American Association of Bovine Practitioners (AABP), the Academy of Veterinary Consultants (AVC), Bovine Veterinarian, Merck Animal Health, and Osborn Barr, an agricultural marketing and communications company, Dr. Woelffer has been nominated for the 2013 Cattle Production Veterinarian Hall of Fame which celebrates the rich traditions of production veterinary medicine by honoring exceptional individuals who have made lasting contributions to the veterinary profession. From the development of herd health protocols and management strategies to maintaining leadership roles in teaching and research, these nominees have helped shape the industry throughout their distinguished careers. Many consider Dr. Woelffer the father of bovine reproductive programs by integrating sound scientific principles into reproductive programs. He was a member of the AVMA Executive Board and Professional Liability Trust. He received numerous awards, including the AABP Award for Excellence in Dairy Preventive Medicine and the Amstutz-Williams Award. He also was an honorary lifetime member of the AABP. Voting is currently underway and concludes August 5. AVC members may vote online at www.avc-beef.org/halloffame. AABP members may vote online at www.aabp.org/halloffame.

Class of 1950

Dallas B. Tuthill DVM, MD

Sun City Center, FL

Enjoyed chatting with Dean Kotlikoff and tour of the College of Veterinary Medicine in September 2012. Sorry to have missed Dr. Howie Evans, whom I knew when he first came to Cornell. Most if not all my classmates are gone, but some in succeeding classes might be interested. In any case, I am still around, and enjoying my Golden Years. Much nostalgia! Yay for veterinarians!

Class of 1952

John H. Baldwin, DVM

Greene, NY

I enjoy retirement with homes in Florida and Greene, NY. Keep in touch with Dr. Dann '53, Dr. McVicar '52, and Dr. NB Hayes '52. Now out of the Harness Horses Business. I owned four (two very successful) with \$100,000 earnings! Still bowl and golf but not as well with "old age." Enjoy info from Cornell. Also keep in touch with OTS info—our class of '48 members down to less than 20?

Class of 1960

Adrian R. Morrison, DVM

Rose Valley, PA

Dr. Adrian Morrison has published "Brandywine Boy," his memoirs growing up in the Brandywine Valley of southeastern Pennsylvania. Comprised of 11 chapters with illustrations by Gayle Joseph, an executive assistant at PennVet, the book chronicles in vivid detail Morrison's adventures growing up in a postwar, changing rural environment. Though the writing project started out as a simple recording of stories for his family to enjoy, he now hopes others may be charmed by and learn from his tales. Morrison is self-publishing his book with assistance from CreateSpace. It is available on Amazon at <http://tinyurl.com/brandywineboy>

David Morrow III, DVM, PhD

Deceased 2005

Sponsored by the American Association of Bovine Practitioners (AABP), the Academy of Veterinary Consultants (AVC), *Bovine Veterinarian*, Merck Animal Health, and Osborn Barr, an agricultural marketing and communications company, Dr. Morrow has been nominated for the 2013 Cattle Production Veterinarian Hall of Fame which celebrates the rich traditions of production veterinary medicine by honoring exceptional individuals who have made lasting contributions to the veterinary profession. From the development of herd health protocols and management strategies to maintaining leadership roles in teaching and research, these nominees have helped shape the industry throughout their distinguished careers. Dr. Morrow spent a lifetime committed

to dairy cattle health and reproductive physiology, and earned numerous accolades for his teaching and research at Michigan State University in the Department of Large Animal Surgery. Dr. Morrow was a charter member of the American College of Theriogenologists and is well-remembered for his textbook, "Current Therapy in Theriogenology." He was honored as the World Dairy Expo Industry Person of the Year in 1997. Voting is currently underway and concludes August 5. AVC members may vote online at www.avc-beef.org/halloffame. AABP members may vote online at www.aabp.org/halloffame.

Class of 1978

George B. Nashe, DVM

Woodbury, CT

Sherman Hill Animal Hospital, 431 Sherman Hill Rd., Woodbury, CT, celebrated its fifth year under the ownership of Dr. George Nashe and his wife, Zheni Nashe. Dr. Nashe said he chose to be a veterinarian when he was already an adult, working as a restaurant manager in New York City and taking horseback riding lessons on weekends. "I watched a vet working at the barn where I was taking lessons and decided that's what I wanted to do," Dr. Nashe said he is exhilarated when he is part of a positive influence on an animal's health. "But, turn it the other way; it's a very sad occurrence when animals die. This job has its ups and downs. You don't go into this profession thinking you'll cuddle animals all the time and everything will be wonderful."

Class of 1985

Douglas L. Cohn, DVM

Albany, NY

Cornell's Johnson Museum of Art highlighted original paintings, drawings, and books for its recent exhibit "Beauties and the Beasties in Children's Book Illustrations" (February 2 – May 5, 2013). Dr. Cohn, Director of the Animal Resources Facility, Albany Medical Center, provided from his collection a number of illustrations and original drafts used in well-known children's books, including *Charlotte's Web*.

Natalie Gates, DVM

Maui, HI

Natalie Gates has been selected as the new superintendent of Haleakala National Park on the island of Maui in Hawaii. Dr. Gates has worked at Point Reyes National Seashore in California for the last 12 years, first as a wildlife biologist, and then as chief of natural resource management. She transitioned to her new duties at Haleakala in March.

Class of 1994

Joseph A. Impellizzeri III, DVM

Hopewell Junction, NY

Dr. Joseph Impellizzeri, a Diplomate of the American College of Veterinary Internal Medicine (Oncology) recently returned from the Electrochemotherapy 2nd International Users' Meeting in Bologna, Italy. He presented data on the U.S. experience with Electrochemotherapy for telomerase immunotherapy in canine and feline patients. See <http://www.vetcancertrials.org/studies/vschv-telomerase-vaccine-for-canine-cancer> for more information on this cancer vaccine. Dr. Impellizzeri was the only veterinarian from the U.S. to be an invited presenter among renowned physicians and researchers from Europe.

Class of 1998

Susan Ettinger, DVM

Tarrytown, NY

The LSU School of Veterinary Medicine's Integrative Medicine Committee welcomed veterinarian Dr. Susan Ettinger to the Integrative Medicine Program Speaker Series on Friday, April 19, 2013. Dr. Ettinger's presentation was entitled, "Beyond Conventional Chemotherapy." Susan Ettinger, DVM, ACVIM (Oncology), is a staff medical oncologist with Animal Specialty Center in Yonkers, N.Y. In 2012, Dr. Ettinger was named one of the 60 Top Veterinarians in Westchester, N.Y., and in 2011, she was named one of the Rising Stars 40 under 40 by the Business Council of Westchester. She is also co-author of the book, *Dog Cancer Survival Guide*, which was published in 2011.

Class of 2004

Dana LeVine, DVM
Ames, IA

Dr. Dana LeVine joins Iowa State's Lloyd Veterinary Medical Center. Dr. LeVine studied molecular biochemistry at Yale University followed by a Doctor of Veterinary Medicine degree from Cornell University. She is an internist specializing in internal medicine. "I really like the community feel here," LeVine said about Iowa State. LeVine discovered her passion for hematology, the study of blood, during veterinary school working alongside Dr. Marjory Brooks at Cornell University. "We were researching a platelet disorder in dogs, and Marjory definitely got me hooked," Dr. LeVine said. Dr. Brooks continues to be a mentor and friend to Dr. LeVine.

Class of 2008

Zenithson Ying Ng, DVM
Blacksburg, VA

Dr. Zenithson Ng is the first veterinarian to pursue a residency in human-animal bond studies in the United States, according to Dr. Bess Pierce, associate professor in the Department of Small Animal Clinical Sciences and director of the Virginia-Maryland Regional College of Veterinary Medicine's Center for Animal Human Relationships. This innovative program is the only one of its kind at a veterinary college. A unique research, teaching, and service undertaking, the program is part of a growing body of research and outreach on the therapeutic benefits of companion animals. Dr. Ng has not yet decided what he will do after his residency, but he is certain that he will continue his life-long work on the human-animal bond, whether it be through leading veterinary care in private practice, shelter medicine, service animal organizations, or human-animal interaction programs.

IN MEMORIAM

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

Dr. Elihu B. Boroson '53, January 29, 2013
Dr. Daniel A. Ciriigliaro '86, December 8, 2012
Dr. Richard E. Doran '83, April 20, 2013
Dr. Stephen K. Ellis '70, April 10, 2013
Dr. Richard E. Forrest '61, April 6, 2013
Dr. John D. Goebel '45, February 7, 2013
Dr. Boynton A. Grover '43, December 8, 2012
Frederick LeBaron Hiltz PhD '67, February 20, 2013
Kenneth Vincent Finlayson Jubb PhD '55, February 27, 2013
Dr. Robert L. Kennedy '55, January 28, 2013
Peter H. Langer, PhD '60, October 25, 2012
Dr. Larry L. Larrow '56, December 2, 2012
Dr. Arthur O. Lindblom Jr. '53, March 14, 2013
Dr. Robert A. Mavian '62, April 20, 2013
Dr. Anne Whiteford McComb '83, January 18, 2013
Dr. John C. Meek '55, April 14, 2013
Dr. James L. Meiczinger '67, March 2, 2013
Dr. James R. O'Connor Jr. '69, December 13, 2012
Dr. Albert P. Pontick '39, July 24, 2012
Dr. Morris Leon Povar '44, March 22, 2013
Dr. Robert P. Raemsch '50, January 25, 2013
Dr. Harry E. Reddick, Jr. '49, January 14, 2013
Dr. Robert J. Stack '50, February 8, 2013
Dr. Edward George Trewick '64, February 20, 2013
Dr. William C. Wagner '56, December 10, 2012

SHARE YOUR NEWS

We will include Class Notes in the February 2014 issue of *'Scopes Magazine*. Please let us know what you'd like to share with your classmates in our Class Notes section by December 13, 2013, for inclusion.

NAME

(MAIDEN IF APPROPRIATE)

CLASS YEAR

ADDRESS

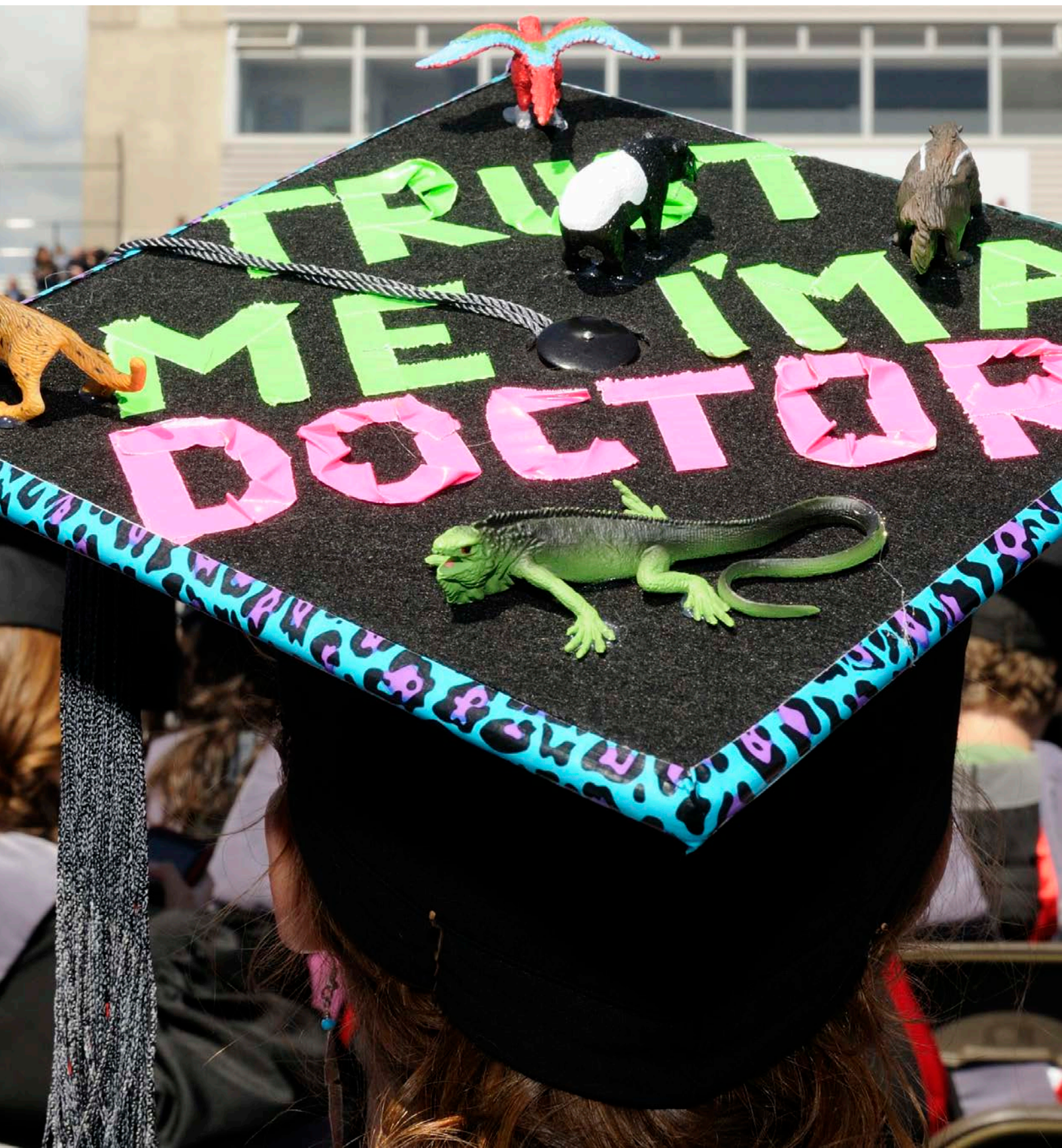
EMAIL

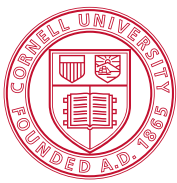
PHONE

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.

In Dean Michael I. Kotlikoff's address to the Class of 2013, he encouraged them to seize the moment: "This is your time. Your time to advance options and solutions to our shared challenges. Your time to challenge conventional wisdom. Your time to challenge yourselves and take informed risks. Your time to imagine and make discoveries and advances. It is your time to define the possible, and by so doing, to shape our future."





Cornell University
College of Veterinary Medicine

Box 39
Ithaca, NY 14853

NON-PROFIT ORG.
U.S. POSTAGE
PAID
CORNELL
UNIVERSITY

*Mark your
calendars!*

**6TH ANNUAL
New York State
Veterinary
Conference**

OCTOBER 3-6, 2013

ITHACA, NY

www.vet.cornell.edu/nysvc

**MULTI-SPECIES
WET LABS & LECTURES
NETWORKING & EXHIBITS**

