50 Years of Advancing Feline Medicine:

Winn Feline Foundation Helping Every Cat, Every Day

"No Place Like Home"

Table of Contents

Celebrating Commitment 2

Winn's Beginning 4

Fifty Years of Milestones 6

The Ricky Fund 10

Discovering the Link Between Diet and Diabetes 12

Uncovering the Feline Genome 15

Life Is Like a Box of Chocolates 18

Unraveling the Mysteries of Feline Chronic Kidney Disease 20

The Bria Fund 22

Feline Stem Cell Therapy: Promising Potential 26

Donor Stories 28

Winn Donor Tree 32

Words of Winnsdom 34

Winn Feline Foundation 38

What Can You Do to Help? 42

Felines First 43

"From those first days in 1968, CFA has been proud of our association with the Winn Feline Foundation. Winn has supported research improving the health and welfare of all cats, the number one pet in the world. Through their efforts, millions of dollars have been raised for research which benefits every cat. Congratulations to Winn on your 50th anniversary."

– Mark Hannon
President, Cat Fanciers Assocation

50 Years
WINN
FELINE FOUNDATION
1968-2018

Celebrating Commitment

The 50th anniversary of the Winn Feline Foundation is first and foremost a celebration of commitment: the commitment you, our donors, made in 1968 to found an organization dedicated solely to feline health. Who could have imagined that when our founders at Cat Fancier's Association (CFA) started this endeavor with just a $100 donation and the $25 nonprofit registration fee, that it would lead to the premier organization dedicated to promoting feline health, research and education?

Winn has established a source of funding for feline health research that will soon exceed $6 million. With the CFA in the lead, cat lovers have sustained, nurtured and grown the organization that has had the greatest impact of any nonprofit in the field of feline medicine and welfare. Those of us who have had the privilege of being your partners on this journey are excited for our yearlong anniversary celebration, our chance to reflect on the accomplishments you've made, and are encouraged about the challenges we continue to face together.

The cats we love today have a fascinating history. Their domestication began about 10,000 years ago in the Middle East's Fertile Crescent, during the dawn of the first human agriculture societies. They were likely welcomed protectors of stored grains and grass seeds. Interest in pedigreed cat breeds began just 100 to 120 years ago, and as of 2016, CFA recognizes 42 pedigreed cat breeds.

From these humble beginnings, cats have emerged as the most popular companion animals in the United States, and are now considered members of our family. With their heightened social status, cat owners expect and often receive state-of-the-art medical care for their feline companions. You have driven these changes: The American Board of Veterinary Practitioners and American Veterinary Medical Association recognize a feline specialty for veterinary board certification. This would not have been possible without your commitment to feline health research and education, especially at a time when feline medicine was in its infancy.

From its beginning, Winn had a mandate to be responsive to the needs of cats—Winn's founders had the foresight to structure our organization so that this mandate is followed. You have evolved your leadership team to include cat fanciers, veterinarians, scientists and cat lovers, all of whom value and respect the wisdom of an interdisciplinary approach. Your presence and priorities are a part of every conversation, and you've led the Winn Feline Foundation to some major milestones. Dollar for dollar, your impact has been maximized, and you've funded a great deal of groundbreaking research on feline health in the past 50 years. This includes these recent advances:

- Defining how coronaviruses enter a cell and mutate to cause feline infectious peritonitis (FIP)
- A new era of stem cell research that will one day result in a cure for chronic kidney disease, gingivostomatitis, inflammatory bowel disease, and feline asthma
- Identifying candidate genes responsible for feline hypertrophic cardiomyopathy (the most common heart disease in cats)
- Enhancing the treatment for feline squamous cell carcinoma (an aggressive cancer) and lymphoblastic leukemia
- Improving the treatment and prevention of *Tritrichomonas foetus*
- Supporting a better understanding of pain prevention in cats, both for veterinarians providing care and pet owners who want their cats to have a high quality of life

Last but absolutely not least, you founded Winn with the expectation that the organization would foster improvements in feline health through education. The first Winn Feline Foundation Symposium on Feline Health was held in 1979 in New Orleans, spearheaded by Joan Miller (Winn past president). It was intended to showcase Winn-funded researchers and their work, and has been held annually ever since.

Through Winn, you have celebrated and awarded feline-focused researchers, veterinary students interested in feline medicine, and media personalities who

advocate for feline health and welfare. In this digital age, Winn has enhanced its presence on the Internet (check it out at www.winnfelinefoundation.org), and expanded its ability to share information about feline health through initiatives such as the Cat Health News Blog, Cat Health Library, electronic Winn Newsletter, researcher interview podcasts and video library (also a Winn YouTube page), and through partnerships with veterinary organizations like the Veterinary Information Network and VetVine. Researchers funded by Winn often appear at major veterinary conferences, and a Winn presence isn't uncommon at cat shows and pet fairs.

There is still so much work for us to do together. Major breakthroughs are made first through a series of smaller breakthroughs, like small pieces of a larger puzzle that, when fit together correctly, finally bring into focus how to solve the greatest challenges in feline health.

We will continue to grow and innovate. We see a future in which FIP is preventable and no longer a terminal diagnosis. We believe we have just begun to leverage the power of the feline genome, particularly in support of breeders who understand that the best cats are healthy cats. We know that healthy aging is built on a foundation of preventive health care, and our goal is that one day cats will age gracefully without discomfort and disease.

Alongside the dedicated CFA, all of us at Winn Feline Foundation will remain committed to your mission and mandate, in support of every cat, every day. We are humbled and honored to be part of Winn, part of its family, which includes countless generous donors, CFA and cat fanciers, veterinarians, veterinary nurses and technicians, clinic staff, and cat lovers, Winn volunteers, Winn board members both past and present, and pet product companies—the multitude of people who have made Winn what it is today and what it is to become. Without our vast Winn family and all the individuals who believe in our mission, we could not have reached this 50th year milestone. It is our family that will enable us to keep leaping forward for another 50 years.

Thank you!

Shila and Glenn

Shila Nordone, PhD, Winn President
Glenn Olah, DVM, PhD, DABVP (Feline), Winn Immediate Past President

50 Years
WINN
FELINE FOUNDATION
1968-2018

Glenn Olah, DVM, PhD, DABVP (Feline)

Shila Nordone, PhD

Winn's Beginning

By Joan Miller

The foundation began when someone at a Cat Fanciers' Association (CFA) board meeting suggested a scholarship fund. In December 1968 at a board meeting in Chicago, the CFA Foundation, Inc., was established with a $125 donation from CFA. Can you believe it all began with $125?

Robert Winn, a progressive attorney for CFA for more than 30 years, was one of the original board members of the CFA Foundation. Elizabeth Freret, an Abyssinian breeder and the originator of the Japanese Bobtail breed in America, and Jean Rose, longtime CFA executive director, also were named to the foundation board. In 1971, the CFA Foundation was re-named the Robert H. Winn Foundation for Cat Research to honor Bob Winn, following his death.

I became involved as a board member in 1978, after the president at that time, Rosemond Peltz, MD, invited me. I organized the first Winn Symposium on Feline Health in 1979. Our speakers were Dr. Niels Pedersen from the University of California School of Veterinary Medicine, Davis, and Dr. Fred Scott from the Cornell Feline Health Center. These two veterinarians were prominent pioneers in the field of feline health and they captured the imagination of all who attended. Fifty years later, the annual Winn symposium continues to be as relevant as ever to breeders, veterinarians, and researchers. At the 2017 Symposium held in Chicago, all those years later, Dr. Pedersen was again the featured speaker, offering hope in the not too distant future for cats diagnosed with FIP.

In 1980, I became president of Winn. In those early days, the board felt our primary goal was to build a treasury by concentrating on donations. I believed if we wanted to raise money, we first needed to spend money, even if our initial grants were small. I also strongly felt it was imperative to set up a veterinary advisory group, in addition to board members, to review grant proposals, to establish and ultimately maintain our credibility.

My involvement and interest in feline health as a breeder really peaked when feline leukemia hit and became prevalent in the early 1980s, really devastating the cat world. At the time, the disease didn't even have a name; we called it the lymph node illness. We knew next to nothing about it. Niels Pedersen, DVM, PhD, needed some financial help to begin studying the disease. Winn also assisted several others, including veterinarians with the Cornell Feline Health Center. There's little doubt in my mind that our seed money and small grants made a big difference for feline leukemia

research. Moreover, this was clearly the turning point in focusing attention on funding research into cat health. Previously, no other organization had really funded research into feline health studies in any significant way.

A few years later, Winn funded the groundbreaking research of Paul Pion, DVM, PhD, DACVIM, at the University of California School of Veterinary Medicine, Davis. He found that a deficiency of taurine (an amino acid) causes most cases of dilated cardiomyopathy, a type of heart disease in cats, which often leads to blindness and even death.

Cat breeders were out in front on that issue, because at the time pet owners had mostly indoor-outdoor cats. Their cats would go out one day and just not come back—but pet owners didn't know they were dying of heart disease. Breeders knew the problem was heart disease, and they knew it was affecting all breeds, as well as mixed-breed cats, so they realized it probably was not a genetic problem. Around that time, Pion had a hunch, based on one persistent pet owner and what he was seeing in his research cat colony, that diet played a role. To this day, he credits Winn for being open to his idea, and ultimately providing the funds responsible for the discovery that a lack of taurine can lead to dilated cardiomyopathy. As a result of his work, all commercial cat foods were reformulated and the incidence of the disease has been dramatically reduced.

In the 1980s Winn participated in a promotion with Kal Kan for six years, producing a calendar of "cover girl" cats. It created awareness and was a great fundraiser.

Beginning with a bequest in 1985 from the estate of Marcia Dial Hopkins, we started an endowment fund, which was then $10,000. It quickly grew, and now the income from investments covers most of Winn's operating expenses, so that donations not stipulated for the endowment can be used to directly fund health studies.

In 1988 in Chicago, we held our first benefit cat show, produced by the CFA club Cats Chicago. This successful show led to five CFA/Purina Invitational cat shows that were also fundraisers for Winn. Looking toward the future, a strategic planning meeting led to development of a mission statement and a new name, Winn Feline Foundation, Inc. By 1996, the Winn Foundation had provided almost $1.5 million in grants for research into feline health, and Winn has only grown since.

Joan Miller was president of the Winn Feline Foundation for 16 years and served for 20 years on the board of directors. She has been involved in the cat fancy since 1970 and was a cat show judge for 32 years. She was a member for 15 years and former chair of the external advisory board for the Center for Companion Animal Health at the University of California School of Veterinary Medicine, Davis, where she also lectured as part of an extracurricular Advanced Feline Medicine course. She served also on the Cornell Feline Health Center Advisory Board for 10 years. Miller has contributed chapters to The CFA Complete Cat Book and Feline Husbandry, and has written extensively on cat subjects, including legislative and welfare issues. She currently chairs CFA's committee on outreach and education. And she most recently is the recipient of the prestigious American Veterinary Medical Association Humane Award.

50 YEARS
WINN
FELINE FOUNDATION
1968-2018

Fifty Years of Milestones

1968 The Cat Fanciers' Association (CFA) Foundation is established with a $125 donation from CFA.

1971 The CFA Foundation is renamed the Robert H. Winn Foundation for Cat Research, to honor founder Robert Winn. Winn awards its first grant to UC Davis to help reestablish a research cat colony decimated by feline infectious peritonitis.

1979 The first Winn Symposium on Feline Health is held in New Orleans, Louisiana, the first of 39 symposia.

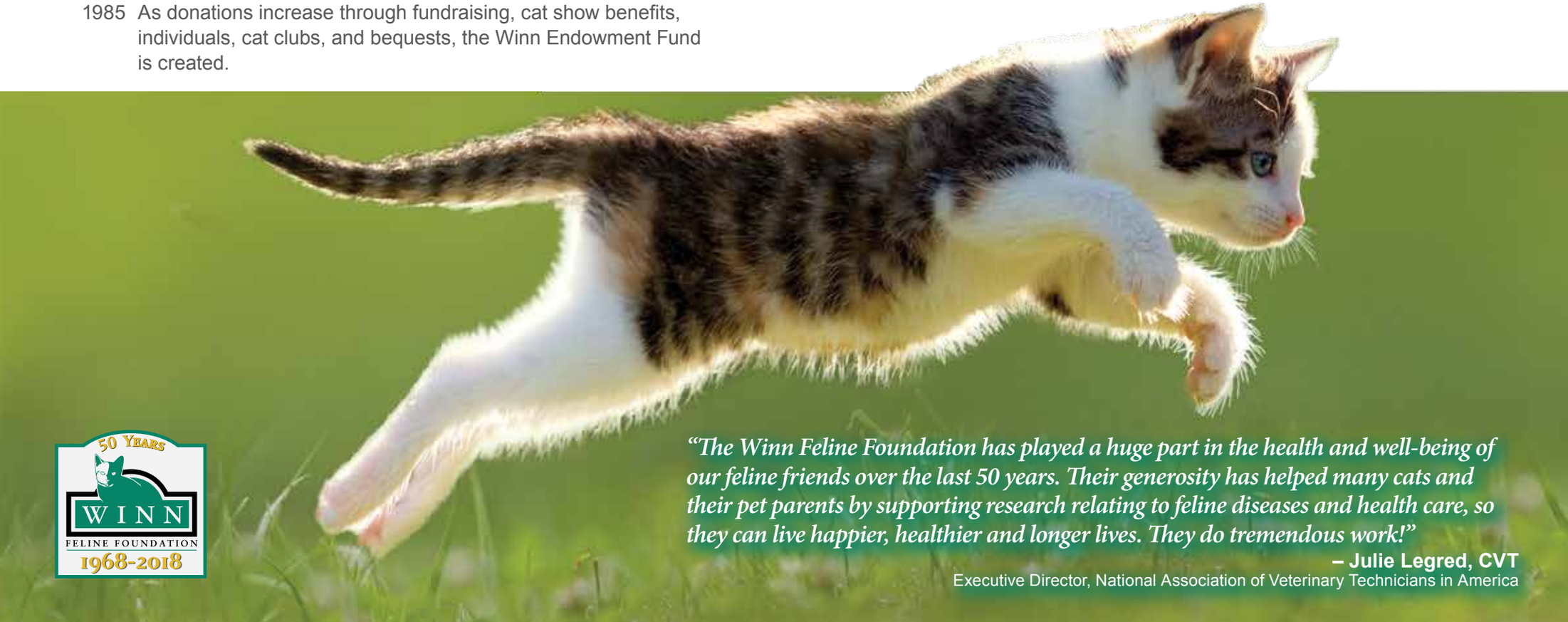
1980 Joan Miller begins her long tenure as president (1980-1996).

1985 As donations increase through fundraising, cat show benefits, individuals, cat clubs, and bequests, the Winn Endowment Fund is created.

1987 A team of Winn-sponsored researchers at the University of California, Davis, led by Dr. Paul Pion, discovers that most cases of dilated cardiomyopathy in cats are related to taurine-deficient diets, leading to reformulated standards for all commercial cat foods.

1987 The virus that causes feline immunodeficiency virus (FIV) is identified by Winn-sponsored researchers, Dr. Niels Pedersen and Dr. Janet Yamamoto of the University of California-Davis.

1988 Winn-sponsored researcher Dr. Philip Fox of the Animal Medical Center in New York shows that blood pressure can easily be measured in cats with the correct blood pressure cuff sizes.



50 Years
WINN
FELINE FOUNDATION
1968-2018

"The Winn Feline Foundation has played a huge part in the health and well-being of our feline friends over the last 50 years. Their generosity has helped many cats and their pet parents by supporting research relating to feline diseases and health care, so they can live happier, healthier and longer lives. They do tremendous work!"

– Julie Legred, CVT
Executive Director, National Association of Veterinary Technicians in America

1989 Winn-sponsored researcher Dr. Urs Giger and his colleagues at the University of Pennsylvania determine the inheritance pattern of feline blood groups and the mechanism of neonatal isoerythrolysis (when the mother has antibodies against the blood type of the newborn), making it possible to avoid fading kitten syndrome.

1990 The Pet Memorial Program for Veterinarians is established, so veterinarians can make a donation in memory of a client's cherished cat and support research that benefits all cats. The Planned Giving Program is established as a way for Winn donors to leave a legacy celebrating a lifetime of loving cats.

1993 Winn reaches the $1 million mark in both research grants awarded and donations received. In conjunction with UC Davis, Winn co-chairs the First International FIP and Feline Enteric Coronavirus Workshop, a partnership that continues in subsequent years.

1995 Winn-funded researchers Dr. Mark Bloomberg and Dr. W. Preston Stubbs study kittens altered at seven weeks of age and compare them to kittens altered at seven months of age. Their work proves that earlier spay/neuter is safe and feasible. Other short-term and long-term studies subsequently validate the safety of early-age altering.

1996 The annual Winn Feline Foundation/AVMF (American Veterinary Medical Foundation) Excellence in Research Award, honoring outstanding researchers in feline medicine, is established. President Hilary Helmrich begins her term (1996-2005).

1998 Winn collaborates with other institutions in the first Feline Genetic Diseases Conference.

2000 Winn-sponsored researcher Dr. David Twedt and his colleagues at Colorado State University confirm that tablets or capsules given to cats may remain in the esophagus for more than five minutes—long enough to cause esophageal damage. Giving a cat a drink of water or a small treat immediately after the pill or capsule to induce swallowing ensures the medication reaches the stomach.

2002 Cumulative grant awards exceed $2 million. Steve and Robin Dale establish the Ricky Fund to memorialize their Devon Rex, Ricky. The fund supports research to better understand and one day effectively treat hypertrophic cardiomyopathy.

2003 Winn begins administering feline health grants for the Miller Trust, the Estate Trust for George Sydney and Phyllis Redmond Miller.

2003 Winn-sponsored researcher Dr. Deborah Greco and her colleagues at Colorado State University demonstrate the effectiveness of a high-protein/low-carbohydrate diet to treat diabetic cats. The diet enables many of the cats studied to go into remission, thereby reducing or even discontinuing insulin injections.

2004 Winn-sponsored researchers Dr. David Biller of Kansas State University, Dr. Leslie Lyons and Dr. Robert Grahn of the University of California, Davis, identify a genetic trait associated with feline polycystic kidney disease (PKD). Their work describes the pathology associated with the defect and enables affected cats to be detected using ultrasound imaging of the kidneys. A DNA test is now available using a simple cheek swab.

2004 Winn-sponsored researcher Dr. Rhonda Schulman and her colleagues at the University of Illinois, Urbana, confirm the efficacy of medication delivered to cats in metered dose inhalers, improving the treatment of feline asthma.

2004 The genetic mutation that causes feline hypertrophic cardiomyopathy (HCM) in Maine Coon Cats is identified by Winn-sponsored researchers Dr. Mark Kittleson and his colleagues at the University of California, Davis, and Dr. Kathryn Meurs and her colleagues at Washington State University. They also establish guidelines for diagnosis of HCM using ultrasound imaging of the heart.

2005 Susan Gingrich establishes the Bria Fund for FIP research, in memory of her cat Bria. Dr. Susan Little becomes president (2005-2009), and increases Winn's online presence and exposure at veterinary conferences exponentially.

2007 With support of the Ricky Fund, the genetic mutation that causes feline hypertrophic cardiomyopathy (HCM) in Ragdoll cats is identified by Winn-sponsored researcher Dr. Kathryn Meurs at Washington State University.

2007 The mutations in red blood cells that cause A and B blood groups, are identified by Winn-funded researchers, Dr. Leslie Lyons, Dr. Robert Grahn, Dr. Niels C. Pedersen, and Dr. Maria Longeri.

2007 Genetic data from more than 1,100 individual cats confirms that the Mediterranean area is the site of cat domestication and that the genetic diversity of cats has remained broad throughout the world. The research is funded by Winn and published by Dr. Leslie Lyons, Dr. Niels C. Pedersen, and Dr. Maria Longeri.

2010 The Winn Endowment Fund exceeds $2 million.

2011 Cumulative feline research grants top $4 million. Winn joins the Cat Health Network (CHN), a collaboration to promote feline health research that comprises the Winn Feline Foundation, Morris Animal Foundation, American Association of Feline Practitioners, and American Veterinary Medical Foundation. Dr. Vicki Thayer begins her term as president (2011-2014).

2012 The genetic mutation that causes hypokalemia (dangerously low potassium levels) in Burmese cats is identified by Winn-sponsored researchers, Dr. Barbara Gandolfi and Dr. Leslie Lyons.

2012 With funding from Winn, Dr. Karen Moriello at the University of Wisconsin-Madison develops best practices for treating the fungal infection dermatophytosis (ringworm) in infected cats and disinfectant protocols, and has educated breeders and shelter workers on techniques to manage and prevent outbreaks in a multicat environment. Her ongoing Winn-sponsored dermatology research includes the less commonly recognized yeast infection malassezia dermatitis.

2013 Winn-funded researcher Dr. Gary Whittaker and colleagues at Cornell University discover a mutation that allows the deadly FIP virus to bind and enter cells, causing infection.

50 YEARS
WINN
FELINE FOUNDATION
1968-2018

2014 Winn is a co-sponsor of the International Conference on Feline Health at UC Davis. Dr. Glenn Olah becomes president (through 2017). Dr. Vicki Thayer becomes executive director. CFA donates $10,000 to Winn.

2014 Winn-funded researcher Dr. Boaz Arzi at the University of California-Davis develops a groundbreaking protocol for using mesenchymal stem cells derived from the cat's own fat to treat feline chronic gingivostomatitis, a common, painful disease characterized by severe inflammation of the gums and oral cavity. The treatment results in the cure or substantial improvement of this condition in 71% of treated cats. Research is ongoing.

2015 The genetic mutation that causes spasticity in Devon Rex and Sphynx is identified by Winn-sponsored researcher Dr. Leslie Lyons at the University of Missouri. Earlier Winn funding of the 9 Lives Genome project, part of the 99 Lives Genome Sequencing Initiative, makes this discovery possible.

2015 Winn introduces the Veterinary Technician Honor Roll Program to supplement the Veterinary Honor Roll Program, already established. Both programs offer supporters a special way to recognize veterinarians, veterinary technicians, and veterinary nurses who have provided outstanding care to their feline patients. The Bria Fund receives Congressional recognition.

2016 A clinical trial of a drug to treat FIP begins at the University of California-Davis, with discovery of the drug funded by Winn.

2016 Winn-sponsored researcher Dr. Barbara Gandolfi at the University of California, Davis, identifies the mutation responsible for a craniofacial defect in Burmese cats. A genetic test now allows breeders to improve the genetic diversity and health of the breed.

2016 Winn-funded researcher Dr. Jody Gookin at North Carolina State University previously characterized the parasite Tritrichomonas foetus, a significant cause of diarrhea in cats worldwide, and published protocols for diagnosis and treatment. Safer and more effective candidate drugs continue to be explored through the sponsorship of Winn.

2016 In a continuing effort to encourage veterinary students to consider feline research, Winn and the American Association of Feline Practitioners (AAFP) offer a new joint scholarship for a veterinary student showing an interest and excellence in feline medicine and research.

2017 Winn Feline Foundation funds 11 feline research grants totaling $214,017, the largest amount awarded during a single grant review. Winn and the AAFP offer two joint scholarships, one for research interest and one for clinical practice. Winn establishes Cures4Cats Day on October 21, emphasizing the importance and need for feline medical research. Shila Nordone becomes Winn president.

2017 In a Winn-funded study, Dr. Jessica Quimby of The Ohio State University reports on the transdermal (skin) application of an appetite stimulant, mirtazapine, in cats that gives clients an easier way to administer this drug to their cats.

2017 Filmmakers Paul Castro Jr. and Aly Miller developed a short feature film about a cat with FIP called, "Aeris." Winn co-produced the movie.

The Ricky Fund

By Steve Dale, CABC

Imagine walking into a pet superstore and seeing fluttering birds in one aisle and cages of mice, gerbils and hamsters in another. Between the two aisles is a long table. On that table, a cat is playing a kid's piano.

If you ever saw the pet store piano-playing cat, his name was Ricky.

In June 2002, the Winn Feline Foundation announced the creation of the Ricky Fund, named for my "musical meowzart," and set up the fund to accept donations specifically to learn more about the most common heart disease in cats. In fact, feline hypertrophic cardiomyopathy (HCM) may be the most common cause of death for indoor cats from around the age of two to eight years.

Ricky, a Devon Rex, clearly had a musical ear. I wanted to train our dog Lucy to play a little piano to entertain others when she worked as an animal-assisted therapy dog. I began the process using clicker training, but about five minutes into the training, Ricky walked into the room, sauntered up to the piano, took his right paw, and went ping on the keyboard. I thought, "Why am I fooling around with this dog?"

I had wanted to begin to teach Ricky anyway, just to demonstrate cats can learn to do pretty much anything dogs can—and often do it better. Ricky was also well-socialized, and leash and harness trained—although he preferred to hang out on my shoulder.

Ricky's musical prowess had always been exceeded by his sophisticated good looks. From the time he was a kitten, people turned their heads to admire my all-white Devon Rex.

Being so incredibly social, Ricky actually joined the family on outings, on his leash and harness. Once on a visit to a bank, a woman commented, "My, what a nice Chihuahua." When I completed my transaction and was heading out the door, the bank guard stopped me. I thought, "Busted! They won't be allowing me in the bank with a cat on my shoulder again." But the guard asked, "Are batteries included? Is that thing from a Stephen Spielberg movie?"

Ricky was also quite an athlete, capable of leaping over a prone dog or through a hulahoop in a single bound. All this success never went to his head. He'd also comply if you asked "Ricky, sit" before offering a treat.

Back then, there weren't a whole lot of piano-playing cats. If YouTube had existed, Ricky would have been a viral hit. But he was a TV star, and he seemed to love it. He appeared on *National Geographic Explorer*, *Pets: Part of the Family* on PBS, several Animal Planet shows, and even on Japanese TV, not to mention my own radio show on WGN, Chicago. The late Paul Harvey featured Ricky twice, and there were numerous newspaper stories than dubbed Ricky "Einstein." Of course, he wasn't. Ricky afforded me the opportunity to demonstrate that all cats can learn, given the opportunity.

I realize the stories of any pet's life can fill a book, but here's my favorite. One day I decided if Garth Brooks could perform in Central Park in New York, Ricky could play piano on the front steps of our condo building. At one such outdoor concert, a 10-year-old boy with Down's syndrome walked by. He was enthralled by my little elfin maestro. He stared at Ricky for several minutes and then began to laugh.

His mother quietly said, "Billy's father passed on two weeks ago. Everyone tried to get him to talk, to react." Just then Billy, who was still giggling, started petting Ricky. Then he sat down and snuggled with Ricky now purring in his lap.

I don't know what secrets Billy shared, but he whispered to Ricky for several minutes. Just before he and his mom departed, Billy looked at Ricky and said, "I love you," and then he kissed Ricky.

At one of Ricky's regular check-ups, our veterinarian detected a murmur and a rapid heartbeat, possible signs of HCM. These symptoms were verified during an ultrasound by a veterinary cardiologist.

HCM is the thickening of a part of the heart muscle. As a result, the heart can't relax well or fill up with blood as it should. If the disease is diagnosed early, as it was with Ricky, cats do have a chance to live at least a few years with medication.

Some cats even live out a normal life span and never experience symptoms. Most do not. It may well be that HCM is the most common cause of death among indoor middle-aged cats.

Because the heart does not pump efficiently, some cats with HCM eventually develop blood clots and are temporarily paralyzed in their back legs. These painful clots typically reoccur and may worsen with each event. A combination of suffering and costs of repeated treatment ultimately dictates euthanasia. Other cats just fall over and die, not knowing what hit them—and that's exactly how Ricky went.

After Ricky's passing, I knew I had to create something in his memory, to do my best to change things so this disease won't strike down others. By allowing me to create a fund in his name, Winn has raised over $140,000.

Talk about return on your investment: Several Winn-funded studies have helped scientists learn more about HCM and how it occurs.

Dr. Kathryn Meurs, then the Washington State University Richard L. Ott Chair of Small Professor of Small Animal Medicine and Research, discovered a gene mutation in Maine Coon and Ragdoll cats that's associated with HCM. While not a perfect test, breeders can do a simple cheek swab test to determine if the defect is there. The test has no doubt lowered occurrences of HCM in both breeds.

While HCM may be associated with specific breeds, it occurs in all cats. It's great that there have been advances, but so much more needs to be done to help cats with this common killer.

Steve Dale has been on the Winn Feline Foundation Board of Directors since 2004. He assists in developing the publicity and promotion for Winn. Steve, a certified animal behavior consultant, is a host of two nationally syndicated radio shows, and is heard on WGN, Chicago. His TV credits range from various Animal Planet shows, to Oprah to National Geographic Explorer. He writes for several pet publications, including CATster, and has authored and contributed to many pet books, including as editor of Decoding Your Dog, contributed a chapter to "The Cat: Clinical Medicine and Management," edited by Dr. Susan Little. He's a co-founder of the CATaylst Council, and is on the Board of the Human-Animal Bond Association, and Scientific AdvisoryBoard of Pet Partners. He speaks about animal behavior around the world, and is the recipient of many honors, including the AVMA Humane Award and is the first recipient of the Winn Feline Foundation Media Appreciation Award. He wrote a syndicated newspaper column for 21 years. His blog is www.stevedale.tv.

50 YEARS
WINN
FELINE FOUNDATION
1968-2018

Discovering the Link Between Diet and Diabetes

By Drew Weigner, DVM

Diabetes is an all-too-common disease of cats, and can be very difficult to treat. In most cases, it's the result of the pancreas not producing enough insulin to metabolize blood glucose at healthy levels, and is often associated with obesity, similar to type 2 diabetes in people. There are also cases where the pancreas doesn't produce insulin at all, type 1 diabetes, which is not common in cats. Regardless of type, the body's cells cannot use glucose for energy and cannot function normally.

Affected cats are often lethargic and frequently drink and urinate excessively. Since the progression of this disease is insidious, it can be difficult to recognize until the cat is severely affected with a lack of appetite, weight loss, and significant lethargy and weakness. By this point, hospitalization and emergency treatment may be necessary.

But if diabetes is caught earlier, through annual screening, most cats can be treated at home with insulin. There are several insulins to choose from, including some made for humans and others just for veteirnary practice. Once we figure out the right insulin at the right dose, regular injections are usually quite effective, but the ideal type and amount of insulin varies greatly from one cat to another. Frequent rechecks are needed to adjust the dose until the cat is stable, and some cats are quite difficult to regulate well. In addition, owners must typically give their cats two injections a day, spaced 12 hours apart, and this is not always easy to arrange.

In 1999, Winn received a study proposal from Deborah Greco, DVM, PhD, a well-known veterinary endocrinologist, looking at the effect of a low-carbohydrate, high-protein diet on the regulation of diabetes in cats. At the time, conventional wisdom was to feed diabetic cats a high-fiber diet, which had been shown in people to blunt the swings in blood glucose levels caused

by insufficient insulin production. What Dr. Greco was proposing was almost medical heresy.

And yet, as the proposal was reviewed by Winn's Scientific Review Committee, it made sense. Cats, unlike people, are true carnivores and naturally eat a high-protein diet—mice! Dr. Brian Holub, a committee member and today also a member of the Board of Directors , recalled, "Nutrition was always very high on my priorities as a clinician, and I strongly supported this grant." The proposal was approved unanimously.

What Dr. Greco and her co-investigators found was that many diabetic cats needed far less insulin and were significantly easier to regulate on the new diet. They looked better, felt better, and gained weight. In fact, this novel approach was so effective that some diabetic cats went into remission and no longer needed insulin injections.

Published in 2003, this study had a radical effect on the way veterinarians approached and treated diabetes in cats, and subsequent experience found that some early cases could be managed with diet alone, avoiding insulin altogether. Like any new therapy, it was initially perceived as controversial and took several years to become widely accepted. But a high-protein, low-carb diet is now considered standard of care for treating diabetes for most cats, and several pet food companies make diets specifically for these patients.

Over the years, thousands of diabetic cats and their owners have seen their lives improved by this innovative therapy. And we haven't stopped there. Winn publishes current educational material on diabetes (and many other diseases) for the veterinary community, cat fanciers, and cat owners, and sponsors frequent seminars on cutting-edge feline medical topics for the scientific community as well as cat caretakers.

Winn continues to solicit innovative and practical proposals for the treatment of many other diseases afflicting cats. Winn recently approved a grant to study stem cell transplants that can produce insulin. This treatment has the potential to cure diabetes in cats, which would truly revolutionize the medical approach to this disease, and conceivably even have implications for people. For the Winn Feline Foundation, it's just another example of the dedication to our mission of improving the lives of every cat, every day.

Drew Weigner has practiced medicine for more than 25 years. He graduated in 1982 from the University of Florida College of Veterinary Medicine. In 1987, he established The Cat Doctor in Atlanta, the first feline specialty practice in the southeastern United States, which became accredited by the American Animal Hospital Association in 1991, and has always been a prominent cat health voice within veterinary medicine. Dr. Weigner is the author of numerous scientific and consumer articles and is sought after as an expert in feline medicine by such organizations as CNN, the *Chicago Tribune,* and *USA Today*. He is dedicated to educating the public about feline issues and frequently appears in the media, and he's contributed to the WebMD pet health community. Dr. Weigner has been a board member of the Winn Feline Foundation since 2014.

50 Years
WINN
FELINE FOUNDATION
1968-2018

Cats rule the world, and yet you'd hardly know it based on the amount of research done on feline health and behavior. Winn is one of the few organizations supporting research that redresses that imbalance and reveals all the mysteries of our glorious cats.

– Beth Adelman, MS
Cat behavior consultant and award-winning journalist,
Winn Media Appreciation Award recipient

50 Years
WINN
FELINE FOUNDATION
1968-2018

Uncovering the Feline Genome

By Leslie A. Lyons, PhD

Everything you need to know about genetics, you can learn from your cat—with a lot of help from the Winn Feline Foundation!

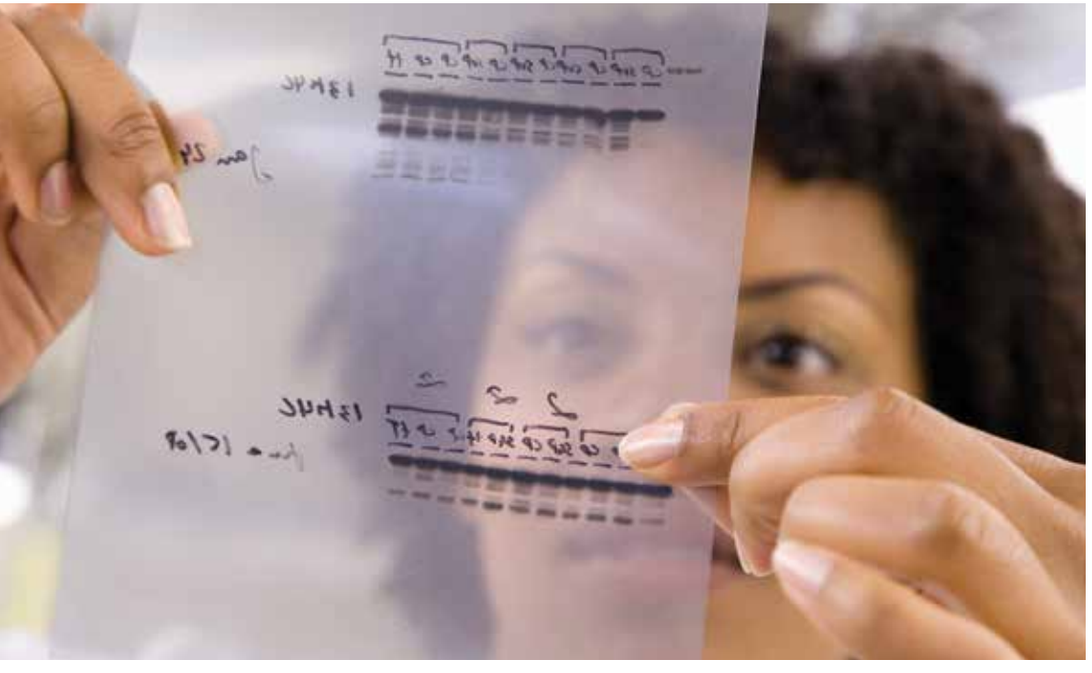
The first grant application I ever wrote was to Winn, back in 1994. It focused on the genetics of the Burmese craniofacial defect. At that time, we had very few genetic resources for cats, not even short tandem repeat markers (STRs) (microsatellites) or single nucleotide polymorphisms (SNPs)—which are DNA variations. A genetic map of where a cat's genes lived on chromosomes was rudimentary at best.

That same year, Dr. Henry Baker and colleagues at Auburn University published a description of the first genetic mutation to cause a disease in cats (Sandhoff disease, a lipid storage disorder in Korats) and Dr. Fred Gashen and colleagues published a study about a gene deletion that causes feline muscular dystrophy. Soon to follow were discoveries of several other feline genetic mutations that cause diseases that had already been discovered in humans. This candidate gene approach, which focuses on the association between a specific mutation and a disease, reigned in the 1990s, with the discovery of more than 10 genes and mutations that cause inborn errors of metabolism in cats. The approach remains the first line of attack to find a cat-specific mutation for a disease.

As a result of my first Winn grant, I met many important members of the cat fancy, including Joan Miller, Hilary Helmrich, Karen Lawrence, and Judy Thomas, who all willingly mentored a young post-doctoral fellow from the National Cancer Institute on everything cat. Because of their enthusiasm, I discovered, unfortunately, a wealth of potential genetic projects that could be tackled by the genetic resources being developed at the National Cancer Institute (NCI). Cats originally became a focus of the NCI because feline leukemia virus was one of the first known viruses to cause cancer. Although only a few cancers are now known to have viral causes, the cat, as a biomedical model for human disease, stayed in the forefront of biomedical research.

By 1997, many genetic markers had been developed, and I demonstrated—through Winn Feline Foundation grants—that these markers could be useful in Burmese cats to help find the craniofacial defect, which causes severe malformation of the head and face. I also demonstrated that STRs were useful to understand the genetics of cat populations and breeds. Little did I know that both of these projects would become life-long pursuits!

I use the same genetic markers today that were used to show Havana Browns had a limited gene pool and an outcrossing program was warranted. These same markers have been genetically typed in thousands of cats from around the world, including random-bred populations and breeds. We now know which breeds are genetically similar and which populations of cats are distinct around the world, forming about 10 to 12 cat racial populations.



By the time I left the NCI for the University of California-Davis in 1999, I had collected samples of genetic material from more than 1,600 cats with various diseases. The move to the School of Veterinary Medicine gave me access to technology and veterinary colleagues who could help clinically define new genetic diseases in the cat. With Winn funding, Dr. David Biller from Kansas State, my UC Davis colleagues, and I hosted genetic screening clinics for polycystic kidney disease (PKD). We screened hundreds of cats, with the best technology and the best clinicians. My first master's degree student, Amy Young, helped identify the gene causing feline PKD, and with further and continued assistance from Robert Grahn and Carolyn Erdman, we identified a mutation that causes PKD—the most common inherited trait in cats.

When we started doing genetic research on cats, we had a hard time gathering all the data we needed to form large familial databases, because we needed five milliliters of whole blood from each cat. By now, techniques were well advanced and we could collect DNA from cats using cheek swabs. So, with the help of the Winn Feline Foundation, I attended cat shows, and borrowed space from the Winn Feline booth, where I collected DNA samples.

Interactions with cat breeders was now greatly facilitated: I could meet them face-to-face, explain our projects, hear their stories, and start new projects. This exposure at the cat shows was the key, because breeders keep careful pedigrees, I am able to keep track of family relationships of all the cats we swabbed. Today, I still attend shows, meeting people, discussing cat health, and collecting samples.

This simple cheek swab technique also allows cat owners from anywhere in the world to participate in research. Thus, our cat genomics database grew rapidly, including the key individuals whom we could previously never collect because they were far away. We were able to fill in key gaps in the Burmese pedigree, which led to the discovery of the craniofacial defect.

Meanwhile, genetic science was advancing rapidly. After sequencing the human genome, we discovered that the DNA sequence of each individual is different and holds many of the secrets about our health. We needed to sequence many more individuals, rapidly, and at a fraction of the cost of the first human genome to understand how genetic diversity controlled health. As the technologies developed, other species benefitted too, including cats.

The first human genome sequence costs many millions of dollars, but now for a few thousand, we can have a very functional genome of any species or individual desired. The first draft cat genome was published in 2004, and significantly improved versions have followed in 2015 and 2016, using support from Winn. The cat genome is on par with many other species, such as dogs, horses, cattle and pigs.

An outcome of genome sequencing is the discovery of DNA variation, all the single nucleotide polymorphisms (SNPs) that make each individual unique or part of a population. The discovery of SNPs led to the development of DNA arrays (chips) that allow tens to hundreds of thousands of DNA markers to be tested in one assay—

dozens of cats at one time. Having so many markers now allows case-control, genome-wide associations studies (GWAS)—an examination of set of genetic variants in different individuals to see if any variant is associated with a trait. We do not have to find all the linking individuals of a pedigree, just an affected individual and a related but normal control.

Our first GWAS case-control was for hypokalemia (dangerously low potassium levels) in cats, and was led by Dr. Barbara Gandolfi. She studied the disease in Burmese, and if the population has low genetic diversity, then fewer than 20 cases and 20 controls can be sufficient to find a recessive disease. (The numbers of cats required for GWAS varies based on how inbred the population and the inheritance of the trait.)

Nearly a dozen disease studies in the cat have been facilitated by the development of the cat DNA array, which was supported by the Cat Health Network and Winn Feline Foundation. My research alone has used over 3,000 cat DNA arrays, leading to a better genome assembly, discovery of the cat AB blood type, the Scottish fold mutation, the Persian progressive retinal atrophy mutation, the potential for susceptibility or resistance factors to FIP, spasticity in the Devon Rex and Sphynx, and other studies yet to be published.

Winn Feline Foundation continues to support the 99 Lives Genome Sequencing Initiative. Having this database of DNA variations of 115 domestic cats and 17 wild felines, one cat can be genome sequenced for a few thousand dollars to potentially find the variant that causes a disease. Five diseases and traits have been identified using data from the 99 Lives project, including blindness in black-footed cats using just three cats, an autoimmune disease in British shorthairs using two cats, spasticity in the Devon Rex and Sphynx using one cat, a new Niemann-Pick disease (which affects metabolism) using one cat, and the bobtail mutation in cats using three cats. Genome sequencing can help determine a cat's disease and the treatment and prognosis.

Over the 33 years I have received funding from the Winn Feline Foundation (averaging about $15,000 per year), my research team has published over 40 papers acknowledging Winn and identified more than 36 mutations in 25 different genes. Every paper pertaining to a GWAS or the 99 Lives Project is also supported by Winn Feline Foundation. We have many genetic projects ongoing, including amyloidosis in Siamese, Orientals and Abyssinians; dwarfism; feline oral facial pain; and several others. My goal is to eradicate genetic health problems in cats, I am proud and pleased that Winn Feline Foundation has always been at my side during this lifelong mission.

Leslie A. Lyons, PhD, is the Gilbreath McLorn Endowed Professor of Comparative Medicine in the Department of Veterinary Medicine & Surgery, College of Veterinary Medicine, University of Missouri. Dr. Lyons was trained in human genetics and her postdoctoral fellowship focused on developing genetic resources for comparative gene mapping across mammalian species. Her research is currently primarily focused on heritable diseases and traits and the population dynamics of the domestic cat. Her laboratory has identified over 30 mutations in 21 genes including many diseases (10), several coat colors (9), several fur types (5), and cat AB / B blood type (2). Dr. Lyons recently launched the 99 Lives Cat Genome Sequencing Initiative, an effort to have deep coverage sequencing of cats with inherited diseases and as a SNP resource for the community. Winn Feline Foundation has supported a majority of the success studies from Dr. Lyons research. Her work on cat population genetics was developed into a National Geographic Explorer episode "The Science of Cats" and she has worked with the BBC on several cat television productions.

50 Years
WINN
FELINE FOUNDATION
1968-2018

Life *Is* Like a Box of Chocolates

By Paul D. Pion, DVM, DACVIM (cardiology)

2017 marks the 34th anniversary of my becoming a veterinarian and the 49th year Winn Feline Foundation has been helping cats worldwide. These events are closely intertwined.

"Why did you become a veterinarian? Is it because you love animals?" I never was sure how to answer that until one rainy afternoon while watching *Forrest Gump*, one of my favorite movies. My response now goes something like this: "One day, for no particular reason, I decided to apply to veterinary school. Maybe it was to make amends for accidentally, at age 11, burning down my room and killing my parakeet, Swifty." Even if penance to Swifty, it has been a rewarding journey that Winn Feline Foundation helped pave.

My career goal, dating back to my early research training in veterinary school, was to cure feline hypertrophic cardiomyopathy (HCM), a common heart muscle disease in cats. In October 1986, I was a cardiology resident at the University of California-Davis (UCD). My research was evaluating the effects of tPA (a clot-dissolving drug) on the saddle thrombi (embolisms at the base of the aorta) that often lead to death in cats with cardiomyopathy.

The first cat, El Blanco, I treated with tPA didn't have a clot secondary to HCM; instead, he had a different kind of heart disease, called dilated cardiomyopathy (DCM). The drug dissolved the clot, but the patient died soon after. Yet, that clinical failure provided clues to the unsolved mystery of feline DCM.

The key was taurine. Taurine was known to be an essential amino acid for cats, but other than effects on the retina, no clinical effects of taurine deficiency had yet been proven. That was about to change, due to a sequence of events that seemed to just fall into place. In retrospect, I'm not sure whether to credit science or serendipity.

I was primed. As a veterinary student pursuing a cure for HCM in 1981, I read papers suggesting normal heart function required taurine. But no link between taurine deficiency and heart disease had been proven. Fast forward to 1986. In a typical month, our cardiology service saw one or two cats with DCM. The week after I met El Blanco, I saw three. Each ate the same food as El Blanco and, like El Blanco, had retinal lesions and low taurine.

At UCD, Quinton Rogers, PhD, and James Morris, PhD, had studied taurine nutrition in cats for years. They had 11 taurine-deficient cats in a study. Two tested positive for DCM. That didn't prove the connection with taurine deficiency, but it raised our suspicions.

A few weeks later, Elizabeth Stoltz's cat, Cecil, became the first cat with DCM to be treated with taurine. A month later, Cecil felt so good we decreased his congestive heart failure medications. The hearts of the two DCM-positive cats in Rogers' colony also began to normalize after being fed taurine. By early February, Cecil's heart also looked more normal. We were convinced taurine might be the answer to what was (at the time) the most common and fatal heart disease of cats.

We designed studies to prove our suspicions, but had no money for research. The grant proposal deadline for Winn Feline Foundation, one of the few agencies willing to fund feline research, had passed. It seemed we would have to wait a year, and cats were dying!

I called the Winn offices and explained our situation. A day later, Winn's president, Joan Miller, called. After consulting the foundation's board and medical advisors, they waived protocol and accepted our application. The $10,000 award—the limit for Winn grants in those days—made all the difference. As a veterinary student I dreamed of a cure for HCM, but thanks in large part to Winn, DCM in cats is very rare today.

From that first introduction, I've watched the Winn Foundation make a huge impact on feline medicine. Winn "bets" on studies submitted by people who demonstrate dedication to using the funds to make a difference for cats worldwide. Ours was one of many successes supported by Winn and the great people who further its mission.

Life is like a box of chocolates. You never know what you're going to get. And that's what makes it fun—and why we need organizations like Winn Feline Foundation*. Happy Birthday, Winn!*

Paul D. Pion holds a BS and a DVM from Cornell University and is a board-certified Diplomate of the American College of Veterinary Internal Medicine (Specialty of Cardiology). Since completing his DVM, Pion interned at the Animal Medical Center (AMC) in New York City, completed a residency in Cardiology at UC-Davis, a post-doctorate in pharmacology at Columbia University, and coursework and research toward his PhD at UC-Davis. Pion is a cofounder and president of the Veterinary Information Network. Among many honors, he has received a Physician Scientist Award from the National Institutes of Health, a Ralston Purina Small Animal Research Award, a National Phi Zeta Award, a Special Recognition Award from the American Animal Hospital Association, and distinguished alumni awards from the AMC, Cornell, and UC Davis. He is coauthor of a popular book for cat owners, *Cats for Dummies.*

50 YEARS
WINN
FELINE FOUNDATION
1968-2018

Unraveling the Mysteries of Feline Chronic Kidney Disease

By Jessica Quimby, DVM, PhD, DACVIM

Chronic kidney disease (CKD) remains a leading cause of illness and death in cats, particularly for seniors. In fact, I am generally surprised when I see a cat in her teens with normal kidney function (we typically cheer "Go kidneys!" when this happens).

The good news is that today there is a new early diagnostic tool, a simple blood test for CKD called symmetric dimethylarginine or SDMA. Unfortunately, despite the large number of cats with CKD, we have no idea why it happens, why it is so common, or how to cure it—other than a kidney transplant. Support for research to fight this disease remains a challenge, but I'm optimistic that with support we will make a difference.

Dr. Jessica Quimby with her beloved cat Telia, who died of complications of CKD in 2014.

Part of my work in exploring novel treatment strategies for feline CKD has been assessing the use of mesenchymal stem cells as a possible therapy. Winn was the first agency to support our feline stem cell program, with a grant in 2007; what seemed like a somewhat crazy idea to some people (injecting mesenchymal stem cells from a healthy cat into a cat with CKD) became the basis of the feline stem cell program at Colorado State University. These studies proved the safety of stem cell injections in cats and continue to work toward developing an effective therapy for CKD. Mesenchymal stem cell therapy for CKD remains experimental and there is much work still to be done. These studies laid the foundation for stem cell therapy in cats and provided valuable data that other researchers have used to develop additional research. Studies have now been done using stem cells to treat inflammatory bowel disease, asthma, and gingivostomatitis (a painful chronic inflammatory disease of the gums and mouth), with intriguing results.

While we work diligently toward better understanding the disease and possible therapeutic interventions, it is important to provide supportive care for cats suffering from CKD. A kidney transplant is not financially realistic for most owners and not medically feasible for many cats; for the majority of patients, the best we can expect is to manage their disease with palliative care that keeps them comfortable and addresses medical problems that arise when there is declining kidney function.

I could easily prescribe five or ten medications that might help the patient (we think) with either kidney disease or the side effects of kidney disease. However the balance between medical treatments and quality of life is a fine one, especially for cats, who do not easily accept a lot of medication and other interventions. I recently spoke at a conference about evidence-based management of feline CKD, and after my talk a veterinarian handed me a note with a quote that he felt was important to my work: "The human-cat bond is broken proportionally to the number of pills you try to stuff down the cat's throat." I agree wholeheartedly, and I firmly believe we should work toward gathering more evidence about which medications do really help, and also more feline-friendly forms of medication.

In my opinion, one of the most important therapies I have studied is the appetite stimulant mirtazapine. In 2007, Dr. Katharine Lunn and I discussed how impressed we were by the efficacy of mirtazapine, and felt it had great potential to help our chronically ill patients, particularly those with CKD.

Cats with CKD commonly suffer from loss of appetite and nausea secondary to their kidney disease. Maintaining appetite and body weight is critical, because weight loss has been tied to a poorer prognosis and poor appetite is a major quality of life concern. Therefore, an appetite stimulant could benefit these patients. However, we felt that the anecdotal recommendations for the use of mirtazapine (3.75 mg every three days) were not consistent with our clinical experience—the dose was resulting in side effects and did not last three days. We actually had no information about how the drug is processed in the feline body, so we resolved to learn more about how the medication should be used in cats. This would provide a starting point to determine how it should be used in cats with CKD. Our initial research was funded by Winn. We found that smaller and more frequent doses of mirtazapine were effective and minimized side effects. This study became the basis of my program of research in feline clinical pharmacology.

I went on to explore mirtazapine's use in geriatric cats, cats with CKD, cats with liver disease, and finally, as a transdermal gel that can be applied to the ear. Many medications do not work as transdermal gels, but we were very fortunate to discover that mirtazapine does. We are currently in the middle of a Winn-funded clinical trial using transdermal mirtazapine to manage appetite in CKD cats, and I have no doubt this will prove to be a significant benefit for cats with this disease who are struggling to maintain their appetite.

In my career, I have been fortunate enough to have an active research program, and to be considered a key opinion leader in the fields of feline chronic kidney disease, appetite and feline clinical pharmacology. I regularly receive e-mails from CKD cat owners, and many express thanks and gratitude for the feline CKD research program. I can say without a doubt that this research, which has the potential to help so many cats, as well as my career, would not be where they are today without the support of the Winn Feline Foundation!

Dr. Jessica Quimby received her veterinary degree from the University of Wisconsin-Madison and completed a small animal rotating internship in Sacramento, California. She subsequently spent two years in feline practice in Grand Rapids, Michigan, before moving to Colorado State University College of Veterinary Medicine for a combined small animal internal medicine residency and PhD program. She completed her PhD with specific research on feline CKD in 2012 and was on the faculty at Colorado State until 2017. Dr. Quimby is now a faculty member at the Ohio State University College of Veterinary Medicine. Her research continues to focus on chronic kidney disease in cats, including the study of renal aging, novel treatment strategies and evidence-based supportive care strategies. She has a special interest in clinical trials and clinical pharmacology which is aimed at improving supportive care and quality of life in cats with chronic kidney disease.

Photo Above: *Rinkie, the Traveling Cat, is a CKD patient who participated in the trial of stem cell therapy treatment for chronic kidney disease. Rinkie is known to travel the world with his human companion, Cynthia, and posts his story on Facebook to the amusement of his followers.*

50 Years
WINN
FELINE FOUNDATION
1968-2018

The Bria Fund

By Susan Gingrich

I never imagined that adding a kitten to our family would change my life forever and in so many ways. Bria was born on July 12, 2004. She was a lynx blue point Birman, and she was beautiful. Her registered name was Brieanna Jamie, Bria for short. We brought her home the Friday before Thanksgiving. She fit in right away, as if she had always lived with the Gingrich-Shurskis household.

Bria's first veterinary examination went well, and she was deemed very healthy. She was seen a few weeks later, along with her sisters, because they all had upper respiratory infections. When Bria was six months old, she returned to the veterinarian to be spayed. She came home in a cute Victorian collar of a lovely blue hue that perfectly matched her eyes. Despite her distaste for the collar and its inconvenience, Bria resumed playing and eating as enthusiastically as ever.

About a month after the surgery, though, I noticed that Bria appeared to be breathing from her abdomen. Her energy level was greatly diminished, and she wasn't playing with her ball. Her appetite was still excellent. At first, the veterinarian said she was "fine."

The decreased energy level and shallow, abdominal breathing continued and X-rays revealed a great deal of fluid on one side of Bria's chest. A fluid sample was extracted and sent to a lab for analysis.

Early the next week, our veterinarian called with the lab results. The fluid contained a great deal of protein. There was no totally accurate test for feline infectious peritonitis (FIP), but the results were in line with that diagnosis. Our vet told us the prognosis was poor. There was no cure; cats with the wet form of FIP succumb quickly.

Our regular veterinarian broke her foot, so the next visit was with another vet. Bria had an echocardiogram to rule out a cardiac problem causing the fluid. Her heart checked out fine. The vet asked if we had done a polymerase chain reaction (PCR) test on the thoracic fluid. We hadn't. He advised testing her. Again we waited, anticipating the worst. To our utter amazement and delight, the PCR test came back negative for the FIP virus! Unfortunately, this test was later determined to be unreliable in diagnosing FIP.

Bria still had fluid in her chest, although new X-rays indicated the fluid level was decreasing. She remained fairly inactive and continued the abnormal breathing. Her appetite was decreasing, although she was eating with encouragement. If it wasn't FIP, we had to find out what was causing this. Following our vet's recommendation, we took Bria to the University of Pennsylvania School of Veterinary Medicine, where she was admitted.

During the next several days, Bria was the subject of many tests, I'm sure some of them extremely painful and all of them stressful for such a little kitten. After all the tests, enlarged kidneys, renal failure, anemia and, pleural effusion were confirmed. FIP was the tentative diagnosis. The veterinary resident assigned to Bria advised us to come pick her up as soon as possible, because she didn't have long to live. She knew Bria would be happier at home.

I will forever feel guilty for the decision to take her to the veterinary school. They did not do anything wrong, but I wish I could have back all those tests and those few days. I also realize that guilt is part of what everyone feels who loses a precious kitty to FIP.

When we got home, it was obvious that Bria was telling us that she was tired of fighting and ready for her forever home. She fought her evil and unforgiving enemy almost four months with tenacity and courage. The only available treatment was prednisolone, draining chest fluid a few times, and a whole lot of love.

One evening we took her to our vet's office, where our darling nine-month-old kitten died a quiet and peaceful death. Because of her great love for eating, Bria's coffin was a breadbox. After a brief ceremony, we buried her in a place of honor in our yard. The stone marking for her grave reads, "Beloved Bria, So Small So Sweet So Soon." We didn't have her in our lives very long, but we treasured every minute with Bria.

Because Bria and her experience were too important to forget, in Bria's memory, we approached the Winn Feline Foundation to establish the Bria Fund for FIP Research. Thanks to the generosity of my brother Newt's Center for Health Transformation Foundation, the fund was created. Our hope was that, through the Bria Fund, FIP research will advance, and someday kittens, cats, owners, families and breeders will not have to go through the sadness and heartbreak of FIP.

Like most people with kitties diagnosed with tentative FIP, we had never heard of it. Nothing was lonelier. Today, thanks to social media, many people from all over the world are now able to connect with others for FIP information and support through the Yahoo FIP Cat Support and Facebook FIP Fighters' groups.

"My infectious disease research in general, particularly with FIP (feline infectious peritonitis), Winn Feline has been right there with me Winn's support has made a significant difference. The quest for a cure has been slow, but scientists around the world have built a solid base of knowledge of FIP that is finally yielding exciting breakthroughs, especially in the area of anti-viral drug therapy. If ever there is a time to invest in FIP research, it's now."

– Niels Pedersen, DVM, PhD
Professor Emeritus University of California, Davis School of Veterinary Medicine

50 Years
WINN
FELINE FOUNDATION
1968-2018

Winn Feline Foundation has made "nine lives" nearly a reality by funding research that improves, extends and saves feline lives. I'm proud and pleased to continue to promote the organization's work as both a companion animal journalist and in my "factual fiction" pet-centric novels. It's Win-Winn for both the cats and the people who love them.

– Amy Shojai, Certified Behavior Consultant
Award-winning author, a founder of the Cat Writers' Association,
Winn Media Appreciation Award recipient

One of the groups' goals is to advocate for FIP research. The Bria Fund sponsors events via Facebook and individuals also hold fundraisers. FIP education and fundraising events are held at cat shows and pet expos. As of April 26, 2017, donations to the Bria Fund totaled $434,473. Also as of the end of April, the Bria Fund financed 21 individual FIP projects. ***The Winn Feline Foundation, including the Bria Fund, has sponsored more FIP research projects than any other animal-related nonprofit.***

Through research, our common goals are to find treatments and medications which will allow more kitties to live with FIP as a chronic disease, or to be cured; to continue developing better tests to diagnose FIP, including that elusive blood test; and providing updated and easier to understand FIP educational materials for vets and staff. Sadly, despite all the new information, including new FIP diagnostic tools, FIP is still commonly misdiagnosed and kittens and some adults are euthanized needlessly. Never has the continuation of FIP research been more important.

Nothing represents the progress made more than the photos of these precious cats living with or possibly even cured of FIP. Bella has been on polyprenal immunostimulant (PI) for five years and Finn successfully used feline omega interferon and currently does not require it. Both were diagnosed with dry FIP. Flora, diagnosed with wet FIP, was in the 2016 clinical trial involving injections of a new a protease inhibitor. Her one-year survival date was May 12, 2017.

Best of all, she currently has no traces of FIP in her lab work. No medications are required—she is a normal feline in every way. But these are individual cats who appear, so far, to be exceptions and not the rule. The Winn Feline Foundation and the Bria Fund are determined to make it the rule that cats with FIP are diagnosed correctly, and that they survive.

On November 18, 2015, US Congressman Jimmy Duncan of Tennessee recognized the 10th anniversary of the Bria Fund while the House was in session, and establishing November 18 as National FIP Awareness, Research, and Education Day. We celebrate that day in memory of the too many innocent lives taken by FIP and the people who still love them.

Susan Gingrich joined the Winn board in late 2015. She is a registered nurse, with a master's degree in human services, and recently retired as the Director of Housing in the Commonwealth of PA. Along with her husband, Jim Shurskis, Ms Gingrich founded the Bria Fund for FIP Research at Winn, and continues to lead efforts related to the fund. She is a member of the National Birman Fanciers, where she is involved in Birman Rescue.

50 Years
WINN
FELINE FOUNDATION
1968-2018

Feline Stem Cell Therapy: Promising Potential

By Tracy L. Webb and Craig B. Webb

Stem cells are undifferentiated cells that are present in complex organisms. These cells are capable of dividing to make more stem cells, or differentiating into specialized cell types, such as liver or muscle. Stem cells are important in embryonic development and throughout life for tissue repair and regulation of the immune response.

Although stem cells have been studied for decades, their use in regenerative medicine (treatment that aims to restore the structure and function of damaged tissue) has expanded in recent years. Cells from adult bone marrow, called hematopoetic stem cells, have been used in transplantation therapy since 1956. Another type of adult stem cell, the mesenchymal stem/stromal cell (MSC), has been found in almost all adult tissues and was first used in human clinical trials in the 1990s. Continued stem cell research led to the discovery of embryonic stem cells (ESC) in 1981 and their less controversial counterpart, induced pluripotent stem cells (iPS or iPSC), in 2006. ESC and iPSC are able to divide indefinitely and can differentiate into most cell types, whereas adult stem cells have a finite ability to divide and can only differentiate into some types of specialized cells.

The number of MSC human clinical trials and the disease applications continues to grow, and has crossed over into veterinary medicine.

Feline MSC (fMSC) first appeared in the literature in 2002 when a study at Auburn University described the isolation and characterization of feline bone marrow-derived MSC (fBM-MSC). The next paper did not appear until five years later and looked at the effects of fBM-MSC as a potential therapeutic target for Parkinson's disease. Since these initial studies, investigation and application of MSC to clinical disease in the cat has greatly expanded, due in large part to generous funding from Winn Feline Foundation.

As with other species, research in feline regenerative medicine has been in basic cell characterization and biology, as well as clinical trials testing how MSC can be applied to disease processes. The majority of studies focus on

MSC derived from bone marrow and adipose (fat) tissue. Both allogeneic (using cells from another individual in the same species) and autologous (using cells from the same individual) applications have been studied.

Funding from Winn Feline Foundation has been instrumental in three studies investigating optimization of MSC tissue source. In 2012, T.L. Webb and her colleagues at Colorado State University showed that feline subcutaneous adipose tissue-derived MSC more effectively produced a larger number of stem cells in a short time period, when compared to MSC derived from bone marrow. In 2014 a Winn-funded study at Louisiana State University investigated and optimized the use of an alternate adipose source—within the

testicles—to generate therapeutic numbers of autologous MSC from animals with minimal adipose tissue. This all means using stem cells derived from the cat is a promising therapy for diseases that currently have no effective treatment. Also in 2014, a research group at University of California-Davis identified the retrovirus feline foamy virus (FFV) as a cause for decreased proliferation of adipose tissue-derived MSC from a significant number of non-specific pathogen-free donors, which could significantly affect the therapeutic use of a cat's own stem cells.

Winn Feline Foundation has also supported many of the published studies using fMSC. These studies looked at the possibility of using fMSC to help cats with chronic kidney disease, chronic enteropathy (bowel inflammation), chronic feline allergic asthma, and recurring gingivostomatitis (oral inflammation).

The first published clinical application of fMSC investigated MSC's effects on kidney disease, which affects a significant number of cats and for which there is currently no definitive treatment or cure other than a kidney transplant. This study paved the way for future fMSC clinical trials in kidney disease and other diseases.

In 2014, a randomized, placebo-controlled study we did was published, evaluating allogeneic fMSC derived from adipose tissue in cats with chronic enteropathy. Chronic enteropathy is a gastrointestinal disease that causes diarrhea and/or vomiting that persists for more than three weeks. Five of the seven treated cats had significant improvement or complete resolution of clinical signs, and the two remaining cats had modest but persistent improvement. Based on the results of the study, further investigation into MSC therapy for feline chronic enteropathy and IBD is ongoing.

The potential of fMSC to modify the immune response has shown promise in other feline inflammatory diseases. In 2015 Dr. Boaz Arzi, part of the University of California-Davis research group, published a study looking at the effects of autologous adipose tissue-derived MSC on severe refractory gingivostomatitis—a chronic, debilitating inflammatory disease affecting the oral mucosa. Five of the seven cats who completed the study showed substantial clinical improvement or complete. Significantly, in cats who had complete remission, the disease did not recur for at least six months and up to 24 months after their MSC therapy.

Although much remains to be learned about the ideal application of MSC to feline clinical disease, current literature shows that MSC hold promise as a novel therapy and even a potential cure for several significant inflammatory feline diseases. Winn Feline Foundation has been instrumental in the investigation and clinical application of fMSC therapy so far, and current grant funding continues to support investigations into the mechanism of fMSC's immunosuppressive function and its possible application to diabetes.

Drs. Craig and Tracy Webb are a husband & wife duo at Colorado State University (CSU) working to unlock the therapeutic potential of stem cells in cats with a variety of diseases, including the first and only effort to use allogeneic adipose-derived mesenchymal stem cells in cats with chronic gastrointestinal disease (thanks to a grant from the Winn Feline Foundation). Tracy Webb is residency-trained in small animal emergency and critical care with a PhD in Pathology/Immunology while Craig Webb is a small animal internist with a PhD in Neuroscience. Between the two, with help from a number of DVM students and residents training to be future research scientists, they cover the feline medical effort at CSU from the clinic floor to the laboratory bench top. Drs. Webb & Webb are frequently called upon to present their work at various conferences and conventions, including many that are sponsored by the Winn Feline Foundation and/or the American Association of Feline Practitioners.

50 Years
WINN
FELINE FOUNDATION
1968-2018

Donor Stories

Donna Garrou
Orange, California

Sometimes life takes us down an unexpected path. I started down such a path when my beloved cat developed intestinal lymphoma and I suddenly had to deal with cancer in a pet. One of the first questions is why? Why my cat, why now, what could I have done to prevent this? The next question of course is how, and that was not much easier to answer. Like all pet owners in this situation, I worked at educating myself and steeling myself for whatever had to be done, with the ultimate objective being to ease his suffering and preserve a good quality of life.

That part of the story led me to develop a product to assist in managing his resulting esophageal feeding tube (cancer kitties often don't feel like eating and require multiple meds). Through a process of sharing that product with other cat owners, I found that all were struggling with the same questions and feelings of helplessness. I was moved to help them—providing a source of information and support, and if possible, providing answers.

That is when I discovered Winn. I looked extensively at who was doing research to find answers to the questions about the development, treatment and prevention of diseases of inflammation, and cancer of the alimentary tract and conditions that often accompany them, such as pancreatitis and hepatic lipidosis from the resulting loss of appetite.

What I found is that the important research being done in feline medicine has been sponsored by Winn, consistently supported research in these and many more areas. Nearly all the significant findings in cat medicine have come from Winn-sponsored studies. Without them, we would not know about the necessity of taurine in cat diets; the role of high-protein/low-carb diets in preventing diabetes; the identity of the FIV virus; and so many major advancements. I wanted to back this horse! This was not obscure clinical research, it was research that impacted millions of cat's lives in measurable and meaningful ways every single day.

I wanted to support research that could improve the lives of cats like my beloved Quasimodo, and your cat too. In the process of doing so, I was humbled by the passion and dedication of the people at Winn; people literally dedicating their lives to answering the why's and how's of feline health.

50 Years
WINN
FELINE FOUNDATION
1968-2018

Speckles's Family
Houston, Texas

Before adopting Speckles, I could never have imagined how much influence a cat could have in our lives. Throughout all of our time together, this incredibly special cat gave us the gift of friendship, empathy and unconditional love.

After Speckles became ill, we decided we wanted to convert the joy he brought to our lives into a positive impact on the lives of other cats (and their human guardians). Fortunately, Winn Feline Foundation was willing to work with us to make this possible. Despite how painful it was to lose Speckles, it has been comforting to know that the Speckles Abdominal Cancer Campaign will fund impactful research that may someday help prevent or treat cancer in other precious kitties. There are no other agencies that focus specifically on supporting vital medical research for cats, which is why Winn and its mission are of crucial importance.

Speckles, our magical cat, acted as an inspiration, a loyal companion, and my best friend. We are very glad that Speckles's legacy will play a part in the vital discoveries made through Winn-funded research, and we're extremely grateful to Winn for its long history of improving cat health.

Kate Stryker
ForestWind Siberians, Buffalo, New York

I wish every cat lover could see how essential supporting feline research is. My very first cat was a rescue who chose me when I was 33 years old. Norah was the beginning of my family's seven-year odyssey with one sick rescue cat after another. We went through liver failure, heart failure, lung disease, panleukemia, FELV, and more. Our veterinarian finally encouraged us to research pedigreed cats for a healthy breed and to choose a pet there.

Our search led us to the Siberians. As it turned out, instead of getting a pet, we started breeding. And because of the impact on my children of losing one rescue cat after the other to disease, we started breeding already knowing how essential good health and good health treatment options are for felines.

Before our very first Siberians arrived from Russia in 2005, two things happened. One, we joined a Breeder's and Researcher's Feline Health listserve, and learned almost immediately about Winn Foundation's research. And two, my sister purchased a pedigreed adult cat who ended up dying from feline infectious peritonitis (FIP). My sister's breeder denied any understanding of the cat's illness, preventing a speedy diagnosis. Through my Feline Health group membership, I had learned about Dr. Diane Addie's work with FIP and thought that my sister's cat's symptoms resembled the dry form of FIP, which is hard to diagnose. Sharing this information with my sister, and encouraging her to share it with her veterinarian, finally netted the FIP diagnosis. Research like Dr. Addie's is supported annually by the Winn Foundation. Because of our access to Winn's research publications on a variety of feline health topics, we have been fortunate to have very low rate of disease in our cattery. Winn works diligently to ensure that all cats and all cat lovers have the very best chance to enjoy a long and healthy life together.

We do our part as breeders by offering a 10-year genetic health guarantee that includes FIP. But just as important to us as breeders is our monthly support of Winn Foundation's feline research. We set up an automatic recurring donation that has gone to Winn for most of the going on 13 years we've been breeding Siberian cats. Ten or twenty dollars a month may not seem like much, but it's over $100 to over $200 dollars a year. And in 10 years, that's a lot of money. Won't you join us in ensuring that every cat is a healthy cat? Contribute to Winn!

Nancy Sullivan
Black Cat Farm, Doylestown, Pennsylvania

Nancy Sullivan says that her "cat thing" started in 1968. Nancy lived with her mother in New Jersey, and they had two acres of land and a horse stable. Her horse managed to step on the tail of one of the barn cats. Nancy brought the cat indoors and named her Zubin. Then Nancy met Violet Carter, who operated a small animal charity that housed local strays at a kennel until homes were found; Nancy soon became one of the feline caretakers. Violet told her, "You have so much land. Surely there's room for one more cat!" In no time, Nancy, had 10.

In 1987 she moved to a farm in Pennsylvania with 15 cats and a boyfriend, and she and her friend created a feline paradise. By 1991, all the intact cats had been neutered and had indoor accommodations. "Many of these cats had 'barn cat flu'—herpesvirus—and a variety of bacterial infections," Nancy said, "and I started to read more and more about cats. I think if I had a light-bulb moment, it was in 1995." She simply got up one morning with the conviction that she had to find a way to keep her cats well.

On April 4, 1998, Nancy attended a Winn-sponsored Feline Health Symposium at the University of Pennsylvania School of Veterinary Medicine and heard Janet Wolf (now a member of the Board of Directors) mention FIP.

In July 1999, one of Nancy's favorite cats, Grouch, was at the University of Pennsylvania being examined for other problems, and the blood work indicated FIP. Dr. Cynthia Ward, a recipient of one of Winn's 2005 study grants, delivered the bad news.

Nancy said, "By the new millennium I was ready to do something to honor all of my cats' memories. The Land Beyond the Rainbow Bridge was being inundated with my cats, and I wanted their lives to matter. While I haven't honored all by name, I feel that my donations in some of their names makes a difference."

(This story about Nancy Sullivan was written by Betty White, past Winn Feline Foundation president, and former member of the Board of Directors.)

50 YEARS
WINN
FELINE FOUNDATION
1968-2018

Susanne Wehnert
Horsens, Denmark

For more than a decade the Winn Feline Foundation has been represented in Denmark. Denmark is just a small country, a little over 5 million people. We have an active cat fancy, primarily affiliated with the Fédération Internationale Féline (FIFe). Four clubs make up Felis Danica, which is the national FIFe member. The breeder community is curious and caring, and many breeders do a great job trying to stay informed about all things feline.

For as long as Winn has been represented here (by me and my husband, Claus), we have had raffles at four or five of the Danish cat shows a year, and sometimes at other occasions as well. We get great support from both the exhibitors and pet owners, and we are very thankful for the enthusiasm we always feel.

Right from the start we have been earmarking all funds for FIP research and sending each and every penny to the Bria Fund. We breed Birmans ourselves, and although this brings great joy to us, it also occasionally brings heartache when a beloved pet succumbs to FIP. We are lucky in Denmark that the stigma of FIP has long passed. We can talk openly about the situation and support one another. Although we have certainly clearly seen that the Birmans seem more susceptible than other breeds, I can honestly say that I have met FIP victims among every single breed represented in Denmark. This is something that has affected so many people, and so a lot of people feel the necessity to further all avenues of research and are therefore willing to help raise funds. So far we have raised well over $100,000 for FIP research through Winn!

We are both very thankful and proud of the many cat fanciers who have helped us on this journey, that by all means we plan to continue in the future as long as we need to. This is a combined effort by the many caring breeders and cat owners, who donate wonderful gifts and spend money at the raffles.

When drawing prizes in the afternoon, we have a long line of people waiting to check their numbers, and even if they don't win on that particular day, we all agree that it is still literally a Winn-win situation.

Congratulations to Winn Feline Foundation on 50 years of great work. On behalf of the Danish cat fanciers, I promise there will still be more funds coming for FIP research.

Winn Donor Tree — A Symbol of Thanks and Recognition

Winn's success has depended upon the support of many individuals and groups throughout our 50-year history. A chronicle of donor support is represented by the Winn Donor Tree, a large metal sculpture located at the Cat Fanciers' Association headquarters in Alliance, Ohio. The sculpture is decorated with leaves, stars, rocks, and boulders inscribed with the names of Winn's most dedicated supporters. These inscriptions permanently acknowledge the generosity of all special donors.

Cumulative Donor Recognition

A visit to Winn's donor recognition web page, **www.winnfelinefoundation.org/giving/donor-recognition**, reveals how Winn honors continued support from individuals and organizations. Winn's eight donor levels distinguishes our generous contributors whose cumulative or recurring gifts have enhanced the strength and growth of the Winn Feline Foundation.

50 YEARS
WINN
FELINE FOUNDATION
1968-2018

Support from Organizations

Winn would also like to take this opportunity to thank those corporate and group donors that have supported Winn's efforts to educate cat owners and to improve the health and well-being of all cats.

$100,000+

- Zoetis
- Cat Fancier's Association
- Ralston Purina Company
- Kal Kan Foods
- Houston Cat Club
- Merck Animal Health

Other Corporate and Group Donors

- PetSmart Charities
- Friskies PetCare Company
- Iams Company
- IDEXX Laboratories
- Royal Canin
- Veterinary Information Network
- Garden State Cat Club
- San Diego Cat Fanciers
- San Francisco Revelers
- CFA International Cat Show
- Jiminy Christmas Cat Club
- Lincoln State Cat Club
- Atlantic Phoenix Cat Society
- Birmingham Feline Fanciers
- Black Diamond Cat Club
- Buffalo Cat Fanciers
- Capital Cat Fanciers
- Cat Fanciers of Washington
- Cat'n On The Fox
- Cats Chicago
- Cats Plain & Fancy
- Diamond State Cat Club
- Finicky Feline Society
- Foot of the Rockies Cat Club
- Genessee Cat Fancier
- Greater Lancaster Cat Club
- Hawkeye State Cat Club
- Kittyhawk Felines
- Lone Star Cat Club
- New Hampshire Feline Fanciers
- Norwegian Forest Cat Club
- Oriental Shorthairs of America
- Quad City Cat Club
- Queen City Cat Club
- Sacred Cat of Burma Fanciers
- Salt City Cat Club
- Tarheel Triangle Cat Fanciers
- Tri-County Cat Club

Words of Winnsdom

"Of course I know the Winn Feline Foundation. I'm an animal nut, so I know the great work they have funded over all those 50 years. And as everyone knows, I've been around for all those 50 years and a few more. Winn has contributed greatly to what we know about cats today—no question."

– Betty White
Actress/comedienne/animal activist

"In nearly 14 years with Winn, I am most proud of our leadership role with early spay and neuter. In 1991, Winn and the AVMA funded one of the first early-age spay/neuter studies at the University of Florida. It is impossible to say how much suffering has been alleviated by this pioneering work and studies that followed. With so many unwanted cats and kittens euthanized in shelters, prevention is the key, and Winn has been a leader."

– George Eigenhauser
Winn board member, CFA liaison (2003 to present)

"Every grant selection meeting is filled with study, energy and hope that each and every grant that Winn funds will lead to nine healthy lives for our feline companions. I am so proud to be a part of it."

– Vickie Fisher
Winn board member (2013 to present)

"It is given me great pride to be involved with Winn Feline Foundation for over 25 years. I have seen the foundation move from a grassroots effort of CFA to an internationally respected collaborative organization. I am so proud to be associated with so many dedicated and passionate breeders and veterinary professionals, all of whom have contributed to Winn's success. I wish for another successful 50 years!"

– Brian Holub, DVM
Winn board member (2013 to present) and member of the Winn Feline Foundation Veterinary Advisory Council (1989 to present)

"As a practicing veterinarian and a veterinarian deeply involved in the animal welfare community, I have always felt like I made a difference in the lives of cats. Winn offered me an exciting and new opportunity to make that difference, with an organization that has a long history in the feline community. So when I was asked to join the board, I jumped at the opportunity. The experience has been truly amazing. To be involved in cutting-edge feline research is a dream come true. Moving forward, it's exciting to know that working with this dedicated, passionate and collaborative group of people, the future of feline research and medicine is as bright as ever."

– Dean Vicksman, DVM, CVJ
Winn board member (2015 to present)

"Since my very first cat show in 1987, where I was a vendor selling our do-it-yourself feline leukemia test kits (developed from antibodies obtained from Dr. Neils Pedersen's laboratory at UC Davis), I've been aware of the cat fancy's support of scientific research through the Winn Feline Foundation. Being able to witness the influence on the direction of feline research that Winn has had over the decades has been incredibly rewarding. I am proud to be a part of the grant awarding process that advances our knowledge of feline medicine and husbandry."

– Lorraine Shelton
Winn board member (2014 to present)

"Winn Feline Foundation awards more grants per year in support of research for the benefit of cats than any other source of funding. If it were not for the forward thinking of the Winn Feline Foundation, many of the ideas I have had over the years would never have been funded. I have never met a group of people more passionate about advancing the health and improving the lives of cats through their funding of innovative research."

– Jody Gookin, DVM, PhD, DACVIM
North Carolina State University, Winn-funded researcher

"I breed Birmans, and first learned about Winn through a cat club member, Gayla Geering, VMD. Gayla was a cat-centric veterianrian and fellow breeder who had served as a volunteer grant reviewer for Winn. Birman breeders were losing kittens to fading kitten syndrome and she encouraged us to work with Dr. Urs Giger at University of Pennsylvania and Winn. He eventually proved that cats had more than one blood type that could result in kitten deaths.

I convinced by my cat club to donate to Winn after I learned that Winn limits its overhead expenses, so that more of the money we raised could fund critical research studies. At the same time, Joan Miller, Winn's president, asked me to write summaries of the Winn Feline Health Symposium for publication. Eventually, I had some major losses to FIP, and ended up talking with Dr. Niels Pedersen at the University of California-Davis. Together we convinced Winn to help organize and fund the first international conference on this disease. Winn asked me to serve as co-chair. Shortly after, I was invited to join the board, where I have frequently served as secretary.

Winn's research and researchers have changed my breeding programs, virtually ending upper respiratory infections, eliminating fading kitten syndrome, reducing losses to FIP to a minimal level, treating ringworm effectively, safe blood transfusions, appropriate vaccination strategies, and maintaining an FeLV- and FIV-negative cattery despite doing feral rescues. I am honored to be able to help improve the health of all cats through the work I do with Winn."

– Janet Wolf
Winn board member and secretary (1996-2002 and 2011 to present),
former executive director (2002-2011)

"Winn Feline Foundation has played a crucial role in our lab's pursuit of novel treatments to relieve suffering of cats with feline infectious diarrhea. Moreover, our Winn-funded research has allowed for the development of a new generation of feline researchers."

– Katie Tolbert, DVM, PhD, DACVIM
University of Tennessee, Winn-funded researcher

"Please accept my sincere gratitude for the years of support for our research. Without that support, finding the first mutation that causes feline heart disease (feline hypertrophic cardiomyopathy) and finding the primary cause (at that time) of feline dilated cardiomyopathy (taurine deficiency) would never have happened. You truly are an integral (and beloved) part of veterinary research."

– Mark D. Kittleson, DVM, PhD, DCVIM (Cardiology)
Veterinary Information Network, University of California-Davis,
Winn-funded researcher

"I am honored and delighted to congratulate the Winn Feline Foundation on its 50th anniversary of tremendous support of feline health and well-being. The foundation has generously supported our research on stem cell therapy for the treatment of feline gingivostomatitis, and this has yielded several breakthroughs and positively improved the lives of many cats who had been suffering from stomatitis. We're looking forward to many more years of collaborative and supportive work with the Winn Feline Foundation!"

– Boaz Arzi, DVM, DAVDC, DEVDC
University of California–Davis, Winn-funded researcher

"I have always loved cats—big cats, bald cats, cranky cats, lap cats—any cat! As a veterinarian and a researcher, I am driven by a desire to help find ways for all cats to live longer, happier, healthier lives. I am so very grateful that the Winn Feline Foundation exists to help fund the important research that moves feline health care forward. Thank you Winn Feline Foundation!"

– Kate Meurs, DVM, PhD ACVIM (Cardiology)
Winn-funded researcher

50 YEARS
WINN
FELINE FOUNDATION
1968-2018

"Cats are winners, thanks to Winn Feline Foundation. The organization has been at the forefront of much of the research that has advanced cat health, in areas ranging from heart health to feline infectious peritonitis to chronic kidney disease. If I want to know the latest on cat health, I check Winn first."

– Kim Campbell Thornton
Award-winning freelance writer and syndicated columnist,
Winn Media Appreciation Award recipient

"Winn's dedication to feline health has been nothing short of awe-inspiring . For 50 years, they have tirelessly worked to put the health and welfare of cats on the front page and to fund the research that will end the devastating heartbreak of losing our beloved cat companions to disease."

–Pam Johnson-Bennett, Certified Cat Behavior Consultant
Best-selling author of 10 books, including *CatWise* and *Think Like a Cat*,
Winn Media Appreciation Award recipient

"The Winn Feline Foundation has been a catalyst for significant research. At times, the research has identified correctable problems (such as heart disease related to insufficient taurine). Other times, it has expanded our knowledge into the mechanisms of disease (such as feline infectious peritonitis) and suggested possible diagnostic approaches and therapies that require further research. Still other times, studies funded by Winn, have answered questions about conditions, resulting in a redirection of research (such as asthma). All of these avenues have the potential to help cats get healthier and prevent suffering. And the reach of Winn is long: Research by scientists from many countries has been funded.
I have been privileged to serve on the Grant Review Committee. This daunting task requires a lot of reading and learning, so that each grant application is assessed fairly. Often many excellent proposals are received but resources are insufficient to fund them all of them, though we wish we could fund them all. The past 50 years have resulted in amazing contributions to feline medicine. Here's to the next 50!"

– Margie Scherk, DVM, DABVP (Feline Practice)
Editor, *Journal of Feline Medicine and Surgery,*
member of the Winn Feline Foundation Veterinary Advisory Council

"The International Cat Association (TICA), is pleased to congratulate the Winn Feline Foundation on it 50th anniversary. Our sincerest congratulations to Winn for all the exceptional work on behalf of feline research worldwide. The Winn Feline Foundation stands as a pillar of excellence and devotion, benefiting all felines. Thank you for your 50 years of wonderful work, and another 50 years to come."

– Fate Mays
President, TICA

"It is my pleasure to congratulate the Winn Feline Foundation on their 50th anniversary and express our most sincere gratitude on behalf of the 89,000 members of the American Veterinary Medical Association. The past 50 years the Winn Feline Foundation has been in existence have certainly been "golden" for veterinarians, their feline patients, and the clients who love them. Winn's dedication to researching feline health has provided veterinarians with a variety of treatment options and tools that have become the gold standard for combating disease in cats. The result is a better quality of life for our feline friends and their humans. The AVMA and the American Veterinary Medical Foundation look forward to a continued partnership with the Winn Feline Foundation on important scholarship and award programs, as well as working with them in the Partner for Healthy Pets program."

– Janet D. Donlin, DVM, CAE
CEO, American Veterinary Medical Association

"Congratulations to Winn Feline Foundation on the milestone of your 50th anniversary. The American Animal Hospital Association greatly appreciates the wonderful work you do on behalf of cats and their people. Your research grants have improved our knowledge base and have helped countless felines live better lives."

– Michael Cavanaugh
CEO, American Animal Hospital Association

A way to celebrate a lifetime of loving cats.

Leave a legacy that will benefit cats for years to come. There are many types of estate gifts, depending on your goals.

winnfelinefoundation.org/programs/estate-planning

WINN

FELINE FOUNDATION

Winn Feline Foundation

Winn Officers and Board

President ..... Shila Nordone, PhD
Immediate Past President..... Glenn Olah, DVM, PhD, DABVP (Feline)
Secretary ..... Janet Wolf
Treasurer ..... Vickie Fisher

Additional Board of Directors:

Steve Dale, CABC
George Eigenhauser, Esq
Susan Gingrich
Brian Holub, DVM
Lorraine Shelton
Dean Vicksman, DVM
Drew Weigner, DVM

Staff:

Executive Director ..... Vicki Thayer, DVM, DABVP (Feline)
Donor Care Specialist..... Alisa Salvaggio

Grant Review Veterinary and Scientific Advisors:

Patricia Gallo, DVM, MS
Karen Greenwood
Joe Hauptman, DVM, DACVS
Carol Johnson, DVM, PhD
Melissa Kennedy, DVM, PhD, DACVIM

Outside Scientific Advisory Committee:

Tracey Williams (Zoetis)

Address:

Winn Feline Foundation, Inc.
637 Wyckoff Ave., Ste. 336, Wyckoff, NJ 07481
Phone: 201-275-0624 Fax: 877-933-0939
info@winnfelinefoundation.org
www.winnfelinefoundation.org

50th Anniversary Book Staff:

Editors: Steve Dale, CABC; Beth Adelman, CCBC; Vicki Thayer, DVM, DABVP (Feline)

Book Designer..... MCS Studios
Winn Ads Designer..... Christopher Huizar

Art Credit Cover..... "No Place Like Home" by Jamie S. Perry, © 2017 J.S. Perry Studio, P.O. Box 1000, Glen Ellen, CA 95442 (707) 935-1334 Jamie@jsperry.com **www.jsperry.com**

Photo Credits: **Page 2 (Table of Contents):** Silver tabby SH sitting; Dr. Karen Becnel. **Page 3 (Celebrating Commitment):** Photos to be determined **Page 4 (Winn's Beginning):** Gray/white cat looking out car window; Andrea Gugelman. **Page 6 (Fifty Years of Milestones):** Kitten leaping; IStock; **Page 7:** To be determined **Page 9:** Orange cat; Janet Wolf. **Page 10 (The Ricky Fund):** Ricky and piano; Steve Dale. **Page 12 (Diet and Diabetes):** Brown tabby cat staring up; Dr. Karen Becnel. **Page 14 (Uncovering the Feline Genome):** Torbie and white cat; iStock; **Page 15:** Siamese; Kathi Hoos; **Page 16:** iStock photo. **Page 18 (Life is like a box of chocolates):** Gray/white kittens in basket; Dr. Karen Becnel; **Page 19:** To be determined; **Page 20 (Chronic Kidney Disease):** Dr. Quimby and Telia; Dr. Jessica Quimby; **Page 21** Rinkie the Traveling cat, orange cat with Dr. Quimby; Cynthia Vakareliyska; **Page 22 (The Bria Fund):** Bria; Susan E. Gingrich; Flora, brown tabby on sofa; Walt Morris; **Page 23** Luna, Savannah cat hiking; Debra Roberts. **Page 24 (Bria Fund cont.):** Luna leaping; Jamieson Roberts. **Page 26 (Feline Stem Cells):** Silver cat with green eyes; Janet Wolf. **Page 28 (Donor Stories):** White cat with brown laying down; Janet Wolf; **Page 29:** Speckles, brown SH cat; Speckles's Family. **Page 30 (More Donor Stories):** Orange kitten; iStock; **Page 31:** Brown tabby SH on grass; Ralf Kaevyea. **Page 32 (Support from Organizations):** Donor Tree; The Cat Fanciers' Association; **Page 33:** Silver Birman; Janet Wolf. **Page 34 (Winn Quotes):** Two white SH cats; Dr. Karen Becnel **Page 37 (Planned Giving):** IStock **Page 29 (Honor Roll Ad):** Dr. Pamela Boderieux; Kim Bessoti Jesson **Page 40 (Winn Founders and First Officers):** The Cat Fanciers' Association; **Page 41** Darlene Arden and Dr. Susan Little with Media Award; Steve Dale **Page 42 (What Can You Do To Help?):** Gray/white SH cat with flowers; Dr. Karen Becnel; **Page 43 (Felines First)** Dr. Vicki Thayer with Chester; Dr. Vicki Thayer. **Page 44 (Merck Animal Health Ad)** iStock.

Go beyond “Thank You”

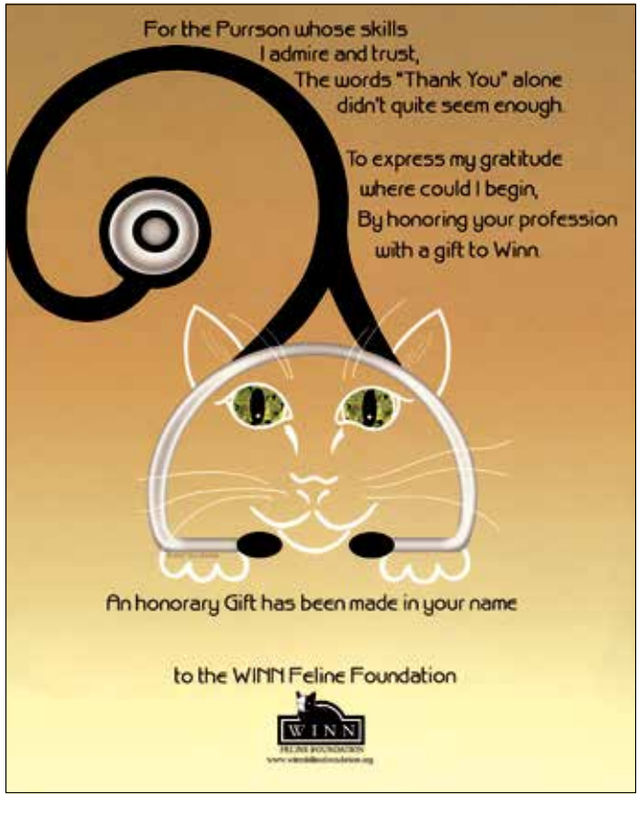
for those who go beyond for your pet.

WINN FELINE FOUNDATION

Honor the special purrson(s) in your cat’s healthcare team today!

CELEBRATING 50 YEARS

THANK YOU ALL!



Dedicated to the Health and Welfare of All Cats

Winn Foundation is a 501(c)(3) non-profit entity

For Honor Roll details visit:

winnfelinefoundation.org/programs/vet-honor-roll

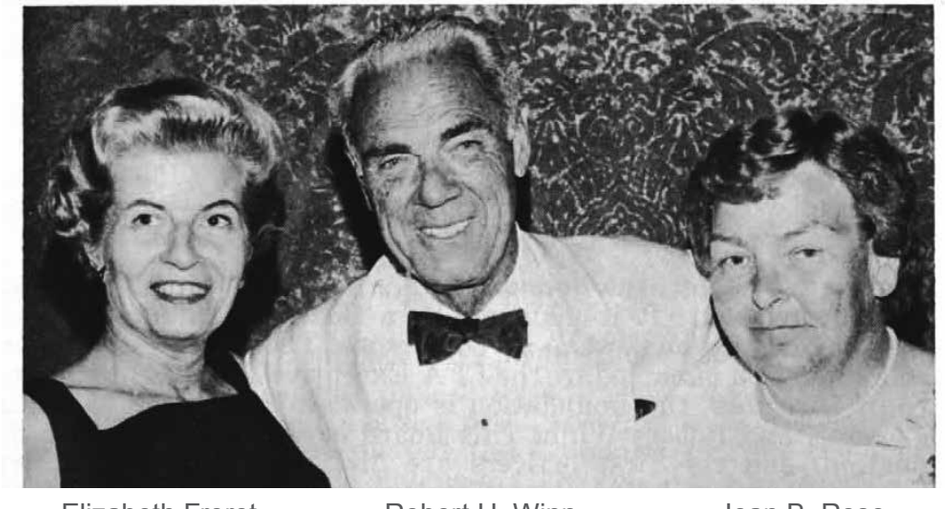
winnfelinefoundation.org/programs/technician-honor-roll

The Winn Feline Foundation Board of Directors thanks those whose insight led to the founding of the foundation and to those whose leadership through the years has enabled us to grow and thrive, fulfilling their vision of providing for the improved health and well-being of all cats.

Past Presidents

Robert H. Winn
S. George Berkley
Rosemonde S. Peltz, MD
Joan Miller
Hilary Helmrich
Susan Little, DVM, DABVP (Feline)
Betty White
Vicki Thayer, DVM, DABVP (Feline)
Glenn Olah, DVM, PhD, DABVP (Feline)

Winn Feline Foundation Founders and First Officers



Elizabeth Freret, Secretary | Robert H. Winn, President | Jean B. Rose, Treasurer

The Cat Fanciers' Association, both past and present leaders and staff. We would like to especially acknowledge its former president, Richard Gebhardt, whose initial idea led to the foundation's establishment and its solicitor, Robert H. Winn, who led us through Winn's formative years.

Over the years, the Winn Feline Foundation has been fortunate to have an outstanding group of volunteers, primarily veterinarians, who have assisted us. Their insight and advice has been critical to our successes in funding studies that have revolutionized feline medicine.

These Winn consultants have all been leading veterinarians and researchers, among whom are:

John August, BVetMed, MS, MRCVS, DACVIM
David Bruyette, DVM, DACVIM
Gary L. Cockerell, DVM, PhD, DACVP
Diana Cruden, PhD
Peter Gasper, DVM, PhD
Audrey Hayes, VMD, DACVIM
Jean Holzworth, DVM
Al Legendre, DVM, DACVIM
John B. Malone, Jr, DVM, PhD
Margot Mellies, MD
Richard L. Ott, DVM
Niels Pedersen, DVM, PhD
Paul Pion, DVM, DACVIM
James Richards, DVM
Fred Scott, DVM, PhD
David Senior, BVSc
Elizabeth Sparger, DVM
James P. Thompson, DVM, DACVIM
Mary Tompkins, DVM, PhD
Alice Wolf, DVM, DACVIM, DABVP
Hsien-Jue (Steve) Chu, DVM, PhD
Julie Levy, DVM, PhD, ACVIM
Shila Nordone, PhD
Joe Hauptman, DVM
Patricia Gallo, DVM, MS

Many veterinary practitioners and others in related fields have also provided important advice and perspective during the grant review process.

Gail Able, DVM
Craig F. Alberty, DVM
Betsy Arnold, DVM
Theodore Balhorn, DVM
Nancy O. Brown, VMD, DACVS
B. Kent Cooper, DVM
Colette Crottey, DVM
David Drake, DVM
Bill Folger, DVM, DABVP (Feline)
Gayla Geering, VMD
Richard Goldstein, DVM, DACVIM
Jeffrey Grodkiewitz, DVM
Valerie Hedden, BSc
David Hills, DVM
Cindi Holub, DVM
Terri McGinnis, DVM
Michael Mersol Berg, MD
James K. Olson, DVM, DABVP
Keith Richter, DVM, DACVIM
Virginia L. Sand, DVM, WA
Margie Scherk, DVM, DABVP (Feline)
Jackie Simon, DVM
Keith Weicht, DVM

Thank you to our excellent and dedicated Cat Health News Blog contributors.

Kelly St. Denis, DVM, DABVP (Feline)
Matthew Kornya, DVM
Melissa Kennedy, DVM, DACVIM
Glenn Olah, DVM, PhD, DABVP (Feline)
Patricia Shea, DVM
Vicki Thayer, DVM, DABVP (Feline)

Winn has been fortunate to have so many talented individuals assist us over the years. If we have inadvertently left anyone out, we apologize.

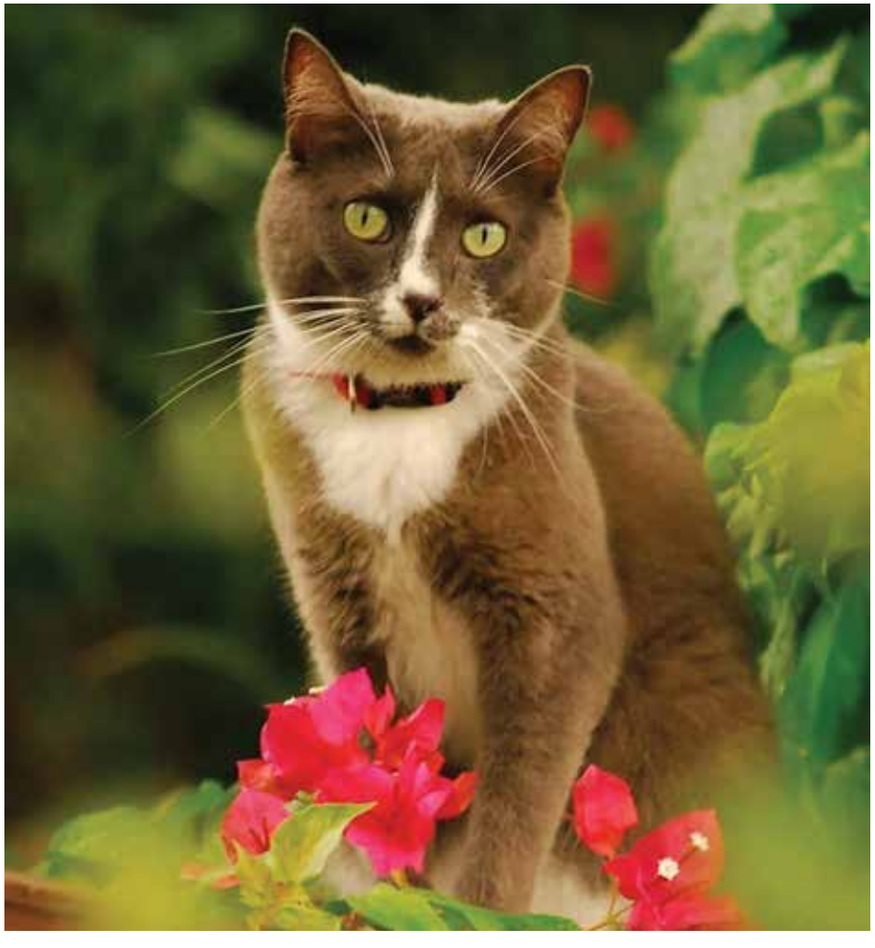
Presenting the Winn Foundation Media Appreciation Award to Darlene Arden, then President Dr. Susan Little

"One of the most fortunate aspects of my professional life as a veterinarian was getting involved with the Winn Feline Foundation. I knew about the groundbreaking research Winn had funded and how valuable that was to feline medicine. But until I started working with Winn, I didn't realize the extent of the work that remains to be done and how little feline research gets funded compared to that for the dog. Without support and funding from Winn, we would be missing a large body of valuable research in feline medicine over the last 50 years. My veterinary career has been so enriched by interacting with all the dedicated Winn volunteers and the researchers we support. Here's to another amazing 50 years!"

– Susan Little, DVM, DABVP
Winn President, 2005-2009

50 Years
WINN
FELINE FOUNDATION
1968-2018

What Can You Do to Help?



You can invest in the future of cat health by donating to the Winn Feline Foundation.

There are many ways to give, and all are designed to return the love of the cats who have enriched our lives:

- Leave a legacy—remember your love for cats in your estate plans.
- Donate in honor or memory of a special person or cat.
- The Honor Roll program is a unique way to honor your favorite veterinarian or licensed veterinary nurse or technician.
- Memorialize your feline friend forever online through Remembering Your Cat.
- As a veterinarian, show your clients how much you care by joining Winn's Pet Memorial program.
- Help eradicate critical diseases by donating to the Bria Fund for FIP (feline infectious peritonitis) or the Ricky Fund for HCM (hypertrophic cardiomyopathy), or Winn's other special funds.
- Donate for general health studies, specific disease research, or for breed-related health issues.
- Become a Winn Cat Health Champion by establishing a recurring donation.
- Ensure your charitable contributions are matched by your employer whenever possible.
- Your volunteer efforts may be eligible for a donation from your employer.
- Elevate your support by sponsoring specific grants.
- Have a research grant named in your honor or in honor of your cat through an exceptionally generous donation.

Please go to WinnFelineFoundation.org/giving to learn more about how you can help every cat, every day benefit from Winn-funded research.

Felines First

What is one of the world's best-kept secrets?

I believe it's Winn Feline Foundation and its mission to benefit the lives of every cat, every day through improved health care. Winn is approaching its 50th anniversary, yet not enough of the cat-loving public, the cat fancy, and veterinary professionals know about Winn and our focus on the health of cats.

Years ago, as a young veterinary student at Washington State University, I assisted Dr. Richard Ott, an early researcher and icon in feline medicine, with etiopathogenesis and transmission studies on feline leukemia virus (FeLV) and feline infectious peritonitis (FIP). Coming full circle as executive director of Winn, I continue to participate in the cycle of gathering passionate donor support for valuable research that is proposed by dedicated investigators and rigorously reviewed by Winn's grant review committee. We eagerly await the arrival of a project's results and its publication in one of the major scientific journals. The final step in the cycle is delivering the evidence-based medicine needed by veterinary professionals to help cats live longer, healthier lives.

Because cats receive a very small percentage of the financial backing for research, compared with dogs, Winn Feline Foundation won't accept being a best-kept secret any longer. The need for more health studies for cats is clear and manifest. Toward this end, Winn is putting feline health first by establishing the inaugural Cures4Cats Day on October 21, 2017. You can join Winn in making the third Saturday of every October a recognized Cures4Cats Day, where every cat, every day benefits from Winn-funded research.

Vicki Thayer, DVM, DABVP (Feline)

Vicki

Winn Executive Director
Past Board Member (2008-2014) and President (2011-2014)

50 YEARS
WINN
FELINE FOUNDATION
1968-2018

Today, Cats Have More Than "NINE LIVES"

At Merck Animal Health, we know that pets are at the heart of families. We are committed to helping you keep them healthy, active and protected from disease.

We are proud to support and advance feline health.

Nobivac®
Essential protection for essential bonds

vetsulin®
(porcine insulin zinc suspension)

BRAVECTO®
(FLURALANER)
TOPICAL SOLUTION

OVER TWO MILLION PETS REUNITED
HomeAgain®
A lost pet's best chance

Follow us @MerckAH

MERCK
Animal Health

Copyright © 2017 Intervet Inc., d/b/a Merck Animal Health, a subsidiary of Merck & Co., Inc. All rights reserved. US/NOV/0717/0038

50 YEARS

WINN

FELINE FOUNDATION

1968-2018

www.winnfelinefoundation.org

"Throughout the last 50 years, the Winn Feline Foundation has shown unwavering purpose in supporting feline-specific research. The eloquence with which they have given felines a voice, in such a previously underserved area of veterinary medicine, is truly unprecedented. The American Association of Feline Practitioners is proud to call the Winn Feline Foundation one of our organizational partners. We look forward with great expectation to the next 50 years of Winn, and the advances that await feline medicine, thanks to their dedication and perseverance."

– Lauren Demos, DVM
President, American Association of Feline Practitioners