

## Five Grants Dedicated to Feline Health Studies

**A total of \$116,500 in funding will support cat research.**

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Siberian cats with hypertrophic cardiomyopathy will be the subject of one of the five studies on feline health. Five grants funded in partnership with the George Sydney and Phyllis Redman Miller Trust for cat health research have been awarded for 2008, according to the Winn Feline Foundation.

This year, a total of \$116,500 in grant funding will go toward studies on various feline health issues, said Winn President Dr. Susan Little. "We are excited about the proposals that have received funding," she said. The studies are: SNP analysis in Siberian cats with HCM looks at hypertrophic cardiomyopathy (HCM), which is the most common heart disorder of domestic cats, according to Dr. Vicki Thayer, DVM, Winn Feline Foundation board member. Because the heart muscle wall becomes thickened and stiff so it cannot relax and contract normally, cats with HCM can acutely develop heart failure or die without warning, she said. The second study, molecular basis of feline coronavirus pathogenesis and development of FIP in cats, looks at feline infectious peritonitis (FIP), which is a deadly disease of cats that has no known effective treatment. It is caused by a feline coronavirus that normally resides in the intestinal tract. In some cats the virus will mutate and infect the immune system, Thayer said. "Researchers believe certain proteins on the virus surface allow the virus to infect immune cells more efficiently," she said. "They hope to define the nature of these proteins, block how the virus infects both gut and immune cells and prevent cats from developing FIP." In the third study, researchers ask, is the lack of oxalate degrading bacteria a risk factor for calcium oxalate urolith formation in cats? Thayer explains that cats can develop urinary stones; the most common type is called calcium oxalate. Stones may form when cats excrete larger amounts of calcium and/or oxalate in their urine and the calcium and oxalate bind together. Pain, bloody urine and a life-threatening inability to urinate can occur. Surgical removal is usually the treatment of choice and the stones often come back. Based on human research, she said, researchers believe some bacteria in the intestinal tract will degrade oxalate. In cats that excrete too much oxalate in their urine and develop stones, they hope to find a decreased presence of these intestinal bacteria. "If this theory proves correct, new therapies such as probiotics, can be used to prevent and manage calcium oxalate urinary stones in cats," she said. The fourth study — Unraveling feline stone genetics: Searching for associations between polymorphisms in candidate genes and calcium oxalate stone formation in cats — looks at urinary stone formation, which is a common disorder of cats. The majority of urinary stones are made up of calcium and oxalate binding together in urine. The feline genome (DNA sequencing) is now known. Using a DNA data bank, Thayer said, researchers hope to discover if the causes of urinary stones have a genetic basis. "If we can identify cats with increased risk, we may be able to prevent stones from forming," she said. The fifth study looks at progressive retinal atrophy. Persians, the most popular breed worldwide, can be used to cross with other breeds. Unfortunately, Thayer said, Persians can inherit a disorder of progressive blindness (progressive retinal atrophy, or PRA) with similarities to retinitis pigmentosa in people. Vision problems develop in affected kittens starting at 4-8 weeks of age and progressing to blindness by 15 weeks of age. It takes two copies of the gene mutation to cause PRA. Carrier cats have one copy of the gene mutation, appear healthy, and can pass the mutation on to their offspring. Genetic markers need to be confirmed through research so a genetic test is available to locate carriers and prevent widespread dissemination of this disease.