

Dr. Ganta secures \$1.8 million NIH research grant

One thousand dollars a day over five years — this is the breakdown of a new research grant for Dr. Roman Ganta, professor in diagnostic medicine and pathobiology. News came this month that the National Institutes of Health had approved \$1.825 million for Dr. Ganta's continuing research on tick-borne bacteria — *Ehrlichia chaffeensis*.

The bacteria affect people and animals primarily in the southeastern and south central regions of the United States. It is transmitted by the lone star tick. The resulting sickness, Ehrlichiosis, is hard to diagnose because its symptoms — headache, fever, malaise and muscle aches — are similar to other, more minor infections. For those with compromised immune systems, the bacterial infection could be fatal.

This particular tick-borne pathogen is also unique because it circumvents the initial defenses of the immune system of the animal or human the tick bites, according to Dr. Ganta.

"It's like the enemy entering into a battlefield and knowing exactly where the landmines are and diffusing them all," Dr. Ganta said.

Dr. Ganta said that tick-borne pathogens like *Ehrlichia chaffeensis* have long been recognized as a persistent concern for the health of several companion animals and livestock. The number of cases in humans has also risen in recent years, increasing the threat to public health.

"Understanding the molecular basis



Dr. Roman Ganta checks in with Feng Pan, research assistant; Dr. Gwi-Moon Seo postdoctoral associate; and Kendra Siebert, a Ph.D. student in his lab.

for persistence by these bacteria has been critical in developing effective methods to control this and other tick-borne pathogens," Dr. Ganta said. "Our research is focused on understanding the pathogen evasion mechanisms, and then using those to defeat it."

Though very few cases are reported — around 1,500 since being listed by the CDC as a disease of concern in the late 1980s — Dr. Ganta estimates that as many as 50,000 people have actually contracted *Ehrlichia chaffeensis* each year. As many as half of patients diagnosed with Ehrlichiosis may require hospitalization.

This is the second grant of roughly the same size Dr. Ganta has received for this research. Over the last five years, his research team has been working under a

previous federal grant, also from the National Institutes of Health, to uncover exactly how the bacterium works. They re-created the conditions for the bacteria to simulate the growth in vivo using in vitro cultured cells from canine macrophages and ticks. The current study revealed that the tick cells are what made the difference, and that the tick's ecology changes the bacteria by changing protein expression, enabling bacteria to slip by the immune system.

The hope is that once Dr. Ganta comes up with a way to fight off the bacteria, that will pave the way for solutions to other forms of *Ehrlichia* and closely related tick-borne pathogens, some of which are devastating for companion animals, cattle and other food animals.



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Brains and brawn: Dr. Brandon Reinbold wins research prize — and fighting belt



Dr. Brandon Reinbold, right, and Dr. Hans Coetzee at the ASR meeting in Colorado Springs.

There are definitely two sides to Dr. Brandon Reinbold, graduate student in pharmacology. One is a researcher dedicated to taking down the disease of bovine anaplasmosis. The other side involves taking down opponents inside the octagonal fighting ring of mixed martial arts.

This month, Dr. Reinbold received the Society for Tropical Veterinary Medicine Award at the Conference of Research Workers in Animal Disease meeting in Chicago. He won for his presentation, “Diagnosis of bovine anaplasmosis following iatrogenic infection.”

“The goal of our research is to be able to identify and distinguish between *Anaplasma marginale* and *Anaplasma phagocytophilum* infections,” he said.

While grappling with this complex research, Dr. Reinbold also finds time for mixed martial arts. He has an undefeated record as an amateur fighter and utilizes the skills he developed as a two-time state wrestling champion in high school to defeat his opponents. His specialty is an arm bar hold, which forces his opponents into submission. In November, Dr. Reinbold won the Elite Fight League heavyweight title belt with a first round TKO improving his overall record to 4-0.

Dr. Hans Coetzee, assistant professor in Clinical Pharmacology, oversees the anaplasmosis research. He has watched Dr. Reinbold compete in the ring too.

“I don’t believe there is another veterinarian, let alone a future Ph.D. candidate competing in Ultimate Fighting in the world today,” Dr. Coetzee said. “Brandon’s competitive nature is part of what makes him an outstanding graduate student. Fighting and research both require perseverance, determination, hard work and

attention to detail. Having that kind of athletic ability also comes in useful when it comes to lifting heavy objects or working 1,000 pound steers!”

Ultimately, Dr. Reinbold plans to go pro as a fighter.

“It makes sense to go up to the pro ranks,” Dr. Reinbold said. “It’s a hobby, but it would be great to be able to earn money for competing.”

He also plans to go pro in the veterinary ranks.

“I will probably try to work in the pharmaceutical industry after I finish my degree,” Dr. Reinbold said.

If his other skills are any indication, taking down a good job will be easy.



Dr. Brandon Reinbold, in the blue trunks, makes quick work of an opponent.

Sweet entries delight at 4th annual gingerbread house competition



Ag practices took first place in this year’s competition. The recent ice storm was a common theme among several of the entries. See more pictures @ Lifelines online: <http://www.vet.k-state.edu/depts/development/lifelines/0712.htm>

Holiday open house



The annual holiday open house was held Dec. 17. Faculty staff and invited guests were treated to a wide assortment of holiday fare in the development, business and dean's offices.

December master's and doctoral grads



A reception was held this month for the December master's and doctoral graduates. From left to right: Dean Ralph Richardson; Robin Craig, Ph.D. in veterinary physiology; Dana Townsend, Ph.D. in veterinary physiology; Megan Jacobs, master's in veterinary biomedical sciences; Trent Fox, Ph.D. in pathobiology; Callie Walker, master's in veterinary biomedical sciences; and Dr. Lisa Freeman, associate dean for research programs. Not pictured: Ashley Thornton, master's in veterinary biomedical sciences.



By Carol Elmore

Check it Out at the Library

New Year's resolutions

With the beginning of a new year, many of us start thinking about making resolutions to improve our personal health, our relationships, our environment or other aspects of our lives.

Here at the Veterinary Medical Library, we each probably have such resolutions, but as a group, we resolved to improve the lives of animals and staff at the T.Russell Reitz Animal Shelter in Manhattan by contributing some items to the shelter from their wish list.

Recently we visited the shelter and took cleaning

supplies, bedding, toys and food. We learned about these needs from a bookmark that the shelter gives to its visitors. The list has interesting requests such as toilet lid covers so cats will have something to snuggle up in as well as the more traditional requests for food, treats and toys. Cleaning supplies are especially requested, as well as monetary donations.

Shelters are an important and necessary part of community life all over the United States. The Veterinary Medical Library recognizes this importance by including books that discuss shelter

history and medicine in our library's print collection.

A few selections in our library collection are: "One at a Time: a Week in an American Animal Shelter" by Diane Leigh; "Shelter Dogs" by Traer Scott; and "Shelter Medicine for Veterinarians" edited by Lila Miller.

We also have Shelter Veterinarian, a journal published by the Association of Animal Shelter Veterinarians.

Resolutions do not always have to be many or large in scope but we here at the Veterinary Medical Library hope our small resolution will inspire others to make similar resolutions.



Top: Dave Adams, Gina Scott, Susie Larson, Carol Elmore, Mary Girard, Mal Hoover and Cindy Logan gather donations. Bottom: T. Russell Reitz Animal Shelter staff Kevin, Barb, Hally and Angela welcome the VML's donations.



Under the microscope:

Kendra Siebert

Ph.D. student with Dr. Roman Ganta



Place of birth: Ulysses, Kan.

Family Information: Parents: Jake L. and Cindy Siebert. Siblings: one sister, Prudence Siebert. Offspring: I have a son, Javin, who is 10 years old and in the 4th grade.

Pets: I have a German Shepherd, Tanja, and a Chaco Golden Knee tarantula, Nestle. My son has a polydactyl cat, Herby, and a hedgehog, Harley. Our fish (guppies) didn't survive the power outage. :(

Favorite holiday movie: A Christmas Story ("You'll shoot your eye out!!" — too funny.)

Describe a perfect weekend: It would be nice to have someone clean my house for me so I could just relax.

What was the most enjoyable class you've had in college or high school? I really enjoyed my high school genetics class. We had Drosophila that we used for our experiments and being amateurs, let a lot of them loose in the school (the cooks just loved that).

Least favorite time of year? Any time it snows!

Describe a time you surprised yourself at being able to do something: During my master's in entomology, I attended a national meeting and gave my first oral presentation. I was very surprised when I actually won the student competition in my section.

What is your New Year's resolution? To get in shape (ha ha).

CVM News Ticker

Dr. Robert Larson spoke at an Intervet meeting in Montgomery, Ala., on Nov. 26.

Dr. Dan Thomson presented at the Kansas Livestock Association Convention in Wichita on Nov. 30.

Dr. Greg Grauer spoke Dec. 3 at the Vetoquinol State of the Art Renal Conference in Nice, France.

Natalie Barrett, fourth-year student from Escondido, Calif., was selected to be the 2008 recipient of the National Simmons Educational Fund (SEF) Business Aptitude Award.



Michelle Conrad gave birth Dec. 10 to Kendra Elizabeth Conrad, who weighed in at 9 pounds 12 ounces.

Marty Kramer's wife gave birth Dec. 11 to son Kas Martin Kramer who was 7 pounds 13 ounces.

Dr. Bonnie Rush participated in the Kester News Hour, which was a review of the clinically relevant literature from the previous year at the 53rd AAEP Convention in Orlando, Fla., Dec. 1-5.

new arrivals

- Jenny Cain - A&P
- Janel L. Crisler - DM/P - VDL
- Yunjeong Kim - DM/P
- Hiromitsu Miyazaki - A&P
- Shannon J. Warton - Animal Resource Facility

recent departures

- Kimberly Austin - A&P
- Bryan Helwig - A&P
- Nithyanandhin Raveendran - A&P

Office under wraps



No, these aren't presents, just Paul Wagoner's desk in Large Animal Care as he found it on Dec. 21.