



Also inside this issue of *lifelines*:



CVM gets involved with Halloween fun. See page 2



Protease inhibitor research holds promise for cat virus. See page 3



Equine students practice safety techniques. See page 4



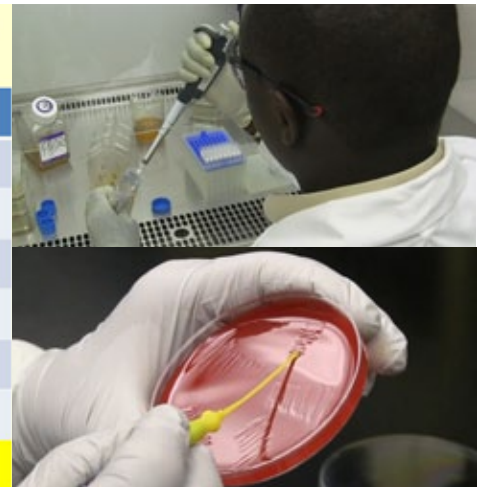
Dr. Gary Anderson receives diagnostic award. See page 4

Principal Investigators

Two CVM units make top five list of campus research departments

Summary of CVM FY 2013 Extramural Support

| University STEM Departments | | | # of Awards |
|-----------------------------|----|---------------------|-------------|
| Dean's Office | | \$119,401 | 1 |
| AP | #5 | \$7,747,515 | 22 |
| CS | | \$1,164,922 | 16 |
| DMP | #1 | \$10,496,241 | 43 |
| VDL | | \$231,875 | 7 |
| VHC | | \$2,000 | 1 |
| Total | | \$19,841,954 | 90 |



Two departments stand out at Kansas State University in a record-setting year for extramural research funding. In total, the CVM received almost \$20 million.

Through the hard work and perseverance of its researchers, the CVM recently completed a record-setting fiscal year by bringing in nearly \$20 million in extramural research awards.

"It's certainly a great achievement. It's a record achievement for us," said Dr. Frank Blecha, associate dean for research. "Education can't occur without the creation of new knowledge. And so creation of new knowledge is essentially research. What I see is this amount of research funding provides a tremendous opportunity for all of the students in the college to have a very hands-on, practical experience in research, as much or as little as they want."

The almost \$20 million granted during the 2013 fiscal year was made up of 90 extramural awards spread throughout the college, with the Departments of Anatomy and Physiology and Diagnostic Medicine/ Pathobiology among the top departments on campus at bringing in research awards.

These grants came from a variety of sources,

including federal, state, industry and private organizations. The funding has helped the college to continue to build its research strengths in animal health and infectious disease, comparative biomedical sciences and food safety and security. "You hire good people and you cut them loose. Get out of their way, let them do their work and you provide an environment that's ideal and conducive for their growth and success," said Dr. M.M. Chengappa, head of DM/P.

Through investments in infrastructure and grants-management support staff, the college has developed an atmosphere necessary for research success.

With new opportunities for growth and collaboration in the future with groups such as the USDA and NBAF and through large, multi-institution grants, the K-State College of Veterinary Medicine is prepared to continue its research success in the future.

Watch the full video online: www.vet.k-state.edu/depts/development/lifelines/1311.htm

CVM children and pets participate in Halloween fun



Jordy shows off his VHC spirit in scrubs. Owner Kristin Loving is the communications coordinator for the Veterinary Health Center.



From left, Aaron and Clara Blevins with Batgirl Peighton Canada get ready to trick-or-treat with their parents, Drs. Chris and Lindsey Blevins and Dr. Nathan Canada.



Jack the pirate prepares to commandeer some catnip from owner Angela Baker, a DM/P student worker.

Dr. Peking Fong sheds light on thyroid molecular interaction

Research in the CVM is leading to a better understanding of the molecular interactions in the thyroid gland related to cystic fibrosis (CF), a genetic disorder that affects the function of epithelia, tissues formed of cells that secrete and absorb an array of substances important for health. Dr. Peking Fong, associate professor in the Department of Anatomy and Physiology, has received a \$285,000 grant from the Department of Health and Human Services in support of her study entitled, "CFTR Regulation of Thyroid Transport."

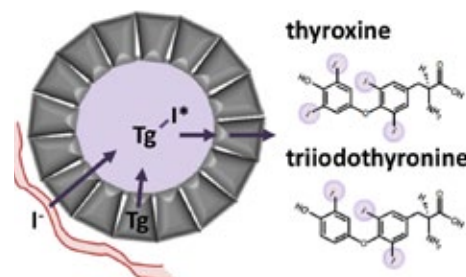
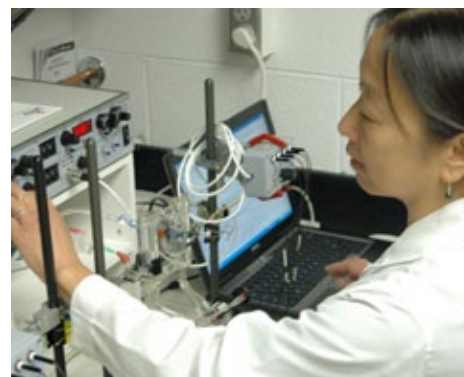
"We are looking at a cellular mechanism that is essential to production of thyroxine and triiodothyronine, which are hormones that modulate development, growth and metabolism in both pre- and post-natal cell life," Dr. Fong explained. "Iodide is an essential component of these thyroid hormones. Its rarity in the environment challenges the thyroid to orchestrate a remarkable series of transport processes that are critical for hormone synthesis."

In addition to actively extracting iodide through the circulation process, thyroid cells must also translocate iodide

into a central compartment within thyroid follicles, where it begins to combine with thyroglobulin to form the precursor to thyroid hormone.

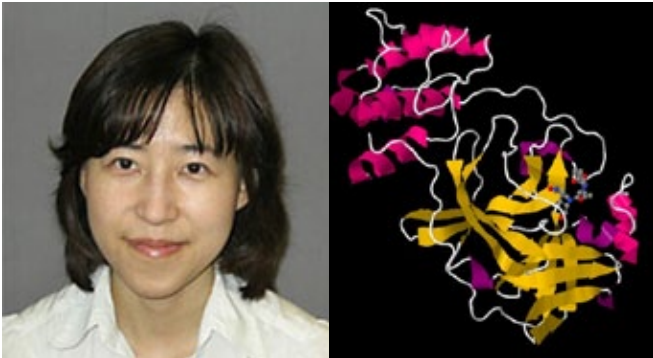
"Through this study, we are seeking to better understand the molecular interactions between the Cystic Fibrosis Transmembrane Conductance Regulator, CFTR, and SLC5A8, which are two transport proteins found in thyroid," Dr. Fong added. "These proteins may play a role in moving iodide into the follicular lumen."

Dr. Fong's project is classified by the National Institutes of Health (NIH) as an R15 Academic Research Enhancement Award. The NIH uses such awards to strengthen research environments at educational institutions as well as to promote the exposure of students to academic research. This is a renewable grant and helps cover expenses for a period of up to three years.



In addition to actively extracting I^- , or iodide, from the circulation, thyroid follicular epithelial cells must also translocate I^- into a central intrafollicular compartment, where it combines with thyroglobulin to form thyroid hormone precursor.

Dr. Yunjeong Kim combats two infectious cat diseases



Dr. Yunjeong Kim, left, recently received a research award for her work with protease inhibitors, right. This inhibitor is bound to a 3C-like virus protease.

If cats really had nine lives, one reason might be to help deal with the wide variety of diseases that threaten feline health. Dr. Yunjeong Kim, a research assistant professor in the CVM, has developed a research approach that tackles two deadly infectious feline diseases at the same time. She received a \$156,342 research award from the Morris Animal Foundation to support her work.

“Coronavirus and calicivirus infections are very common among cats, and cats tend to get repeatedly infected by these viruses throughout their

lifetime,” explained Dr. Kim. “Feline coronavirus can cause gastroenteritis, and calicivirus often causes ulcerative upper respiratory infection with gingivitis and stomatitis.”

Dr. Kim says some cats that are infected with these viruses develop life-threatening illness with high fatality. The deadly form of

feline coronavirus infection, feline infectious peritonitis (FIP), has been recognized since early 1970s, and is currently the leading infectious cause of death in young cats. More recently, virulent systemic feline calicivirus infection (vs-FCV) has emerged associated with a systemic infection that is frequently fatal. Since 1998, numerous outbreaks of vs-FCV infection have been reported in animal shelters and catteries with mortality as high as 67 percent. Vaccines are available for FIP and vs-FCV but their field application seems to be limited or not recommended due to

various reasons, and there is no antiviral drug for these viral infections. Because of this, there is a great need for safe and effective antiviral drugs for these diseases.

“We have been working on a virus protease that is highly conserved among some viruses, including coronavirus and calicivirus,” Dr. Kim said. “This virus protease, 3C-like protease, is essential for successful virus replication, thus it is a promising target for antiviral drug development.”

Dr. Kim is collaborating with Dr. Kyeong-Ok Chang, a virologist, and with Drs. Duy Hua and William Groutas, who are medicinal chemists at K-State and Wichita State University, respectively.

“For the next three years, supported by the Morris Animal foundation grant, we will characterize compounds for drug-like properties and identify additional backup compounds,” Dr. Kim explained. “The grant will also support our research on the roles of the cellular enzyme in virus replication, which may provide important insight into the pathogenicity of these viruses and also may lead to a new antiviral drug target.”

Development office welcomes new director



Darin Russell plans to facilitate continuing support for the CVM.

Darin Russell has been named by the K-State Foundation as the new senior director of development for the CVM.

Prior to joining the foundation, Darin was the senior director of development and team lead for the Division of Agricultural Sciences and Natural Resources at the Oklahoma State University Foundation in Stillwater. Prior to that, he was the vice president for institutional advancement at Kansas Wesleyan University in Salina.

Darin is a native of Courtland, Kan., and earned a bachelor's degree in journalism and mass communications from K-State in 1986.

“Being a lifelong Wildcat, I have worked at other institutions, but have maintained my strong love for K-State and its programs,” Darin said. “I have been associated with K-State veterinarians all my life, including an uncle, a cousin, a nephew and friends who are graduates. It's a great honor to come back to K-State and have the opportunity to help support a college and profession that has such a tremendous reputation.”

Darin will be responsible for the direction and implementation of a comprehensive development program for raising private support for the CVM. He started the new position Oct. 14 and is located in 103 Trotter Hall.

Dr. Gary Anderson receives AAVLD E.P. Pope Award



Dr. Gary Anderson, director of the K-State Diagnostic Laboratory, has been named as the 2013 recipient of the prestigious E.P. Pope Award presented by the American Association of Veterinary Laboratory Diagnosticians. The award provides the highest acknowledgement of those members who have made noteworthy contributions to the association, and have advanced the implementation and recognition of the specialty of veterinary diagnostic medicine.

"It's a great honor to be recognized by my peers with such a distinguished award, but it's very unexpected," Dr. Anderson said. "This award is very little about me and very much about those around me. Before accepting the nomination to be on the officer ballot in 2007, I discussed the situation with Dr. Richardson, colleagues in the department, and my wife. I was encouraged to proceed, and have received outstanding support from everyone over the years – many have stepped up and filled gaps to allow me the privilege and opportunity to serve diagnostic medicine and our association. In reality, I truly consider this an award for K-State rather than me."

SCAAEP practices dragging large animals out of danger



On Oct. 5, the Student Chapter of the American Association of Equine Practitioners hosted a Large Animal Emergency Preparedness Clinic. They first attended a lecture on emergency preparedness and extraction techniques by Eric Thompson, the Disaster Response Director of Code 3 Associates. After lunch, the clinic continued with hands on stations guided by Eric and his talented and knowledgeable crew.

CVM NEWS TICKER

Congratulations to the Colorado Veterinary Medical Association's Veterinarian of the Year, for 2013

Dr. Keith A. Roehr. A 1981 graduate of K-State CVM, Dr. Roehr now lives in Broomfield, Colo. During his career with the Colorado Department of Agriculture's Division of Animal Industry, he has helped administer the Pet Animal Care Facilities Act program and supervised the Bureau of Animal Protection.

The Comparative Medicine Group welcomes its newest agricultural technician, **Marina Vilardo.**

Kailey Fitzmorris and **Shannon Smith**, fourth-year students, presented what it is like to be a large animal veterinarian to approximately 4,000, 2nd and 3rd grade students at the American Royal in Kansas City.

Ph.D. student **Stephanie Shishido** received an Outstanding Poster Presentation Award at the Society of Toxicology-Central States Annual Meeting in Ames, Iowa, Oct. 11 for her presentation: "Induction of apoptosis by PQ1, a gap junction enhancer that upregulates Cx43 and activates the p38-MAPK signaling pathway in mammary carcinoma cells."

UPCOMING EVENTS

- Nov. 16: Cat Town tailgate two hours before the home football game against Texas Christian University
- Nov. 23: Cat Town tailgate two hours before the home football game against University of Oklahoma

You are invited to Cat Town

Join us two hours before home football games to tailgate with the K-State veterinary family. Meals for each game will served by different student groups within the college. Food will be served until kickoff or until it runs out. We hope to see you there.

lifelines is published each month by the Development and Alumni Affairs Office at the College of Veterinary Medicine. The editors are Joe Montgomery, jmontgom@vet.k-state.edu and Rebecca Martineau, beccamm@vet.k-state.edu. Read online at www.vet.k-state.edu/depts/development/lifelines/1311.htm

Connect with us!
facebook.com/ksucvm
youtube.com/ksucvm
twitter.com/ksucvm

