Discovery October 2007

Misty Bailey

Editor

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Awards
p3 Editing services
External funding

The Business of Research

By Dr. Robert Moore.

Trying to understand research reports can be quite confusing since the numbers can be presented in different ways. The most accurate representations of research activity are expenditures and yearly awards.

As a young institution, the CVM has research expenditure data that cover the college’s entire lifespan. The data provided in the figure are interesting in that three distinct periods in the college’s short history can be identified. From 1978 through 1991, the gradual increase in research expenditures represents the initial growth phase for CVM research. Between 1992 and 2001, research expenditures stabilized at approximately the 1991 level with no growth in the college’s research enterprise. The third phase is a dramatic increase in research expenditures between 2001 and 2005. Expenditures for 2006 and 2007 remained at an elevated level, but appear to represent an ending of the second growth phase.

A partial explanation for the abrupt stoppage of the second growth phase is that federal funding decreased sharply in FY06-07 to approximately the level in FY01-02. A slight offset to the decrease in federal funding was provided by a large increase in funding from foundations and private sources. The decrease in federal funding was expected and reflects the budget levels of the primary granting agencies, the National Institutes of Health, which are below their 2005 operating levels at a time of extreme competition for funding. Another compelling factor is the abrupt limitation of research space in the Cherokee.

The second research growth phase was driven by a change in the CVM administration with different expectations and values afforded for research and scholarly work. Progress has been made, and during FY06-07, approximately 50% of CVM faculty were listed as principal or co-investigators on externally funded awards. Moreover, new competitive awards for FY07 were a college record of 45, 10 better than FY05 and 26 more than FY01. Enrollment in the Comparative and Experimental Medicine and the Biology and Biotechnology programs reached an all-time high, while the laboratory animal facility at Cherokee is undergoing major renovations. In short, although there is a depression of research funding from external sources, a variety of positive indicators support the conclusion that research in the college is stronger than it has ever been.
CVM Down Under

Over 19,000 horse races took place last year in Australia, with nearly $306 million in prize money awarded. Considering the popularity of Thoroughbred horses, it is no surprise that Dr. Frank Andrews research on equine gastric ulcer disease (GUD) is so popular there.

A research partnership with Dr. Rafat Al Jassim led Dr. Andrews to Queensland and Fremantle, Australia, in July to deliver several lectures (see Presentations on p. 4). Drs. Andrews and Al Jassim are working to characterize the bacterial diversity in the equine stomach. They have found that bacterial fermentation products like lactic acid play an important role in the development of acid injury in the non-glandular region of the equine stomach. This is especially a problem for Thoroughbreds because their vigorous exercise can aggravate GUD.

Scientists long suspected that bacteria could not survive in the stomach because of its acidic atmosphere. However, the non-glandular region of the equine stomach is not as acidic as the rest of the stomach, allowing the bacteria to survive and grow, possibly by metabolizing sugar in the diet.

Therefore, the next goal of their research is to be able to prevent and treat GUD by manipulating the horses diet, most likely by lowering its sugar intake. A Rural Industries Research & Development Corporation grant has supported their endeavors since 2004, and they are seeking funding from that Australian government agency once again this year.

“What I Did on My Summer Vacation”

Not all students involved in the Center of Excellence summer research program spent their entire vacation in a block-walled laboratory. Second-year veterinary students Jayme Peck and Jennifer Bernard spent 40 hours on a plane to- and from South Africa, of course. That is where they joined Dr. Melissa Kennedy to investigate coronavirus infections in captive and free-ranging cheetahs at the University of Pretoria.

While there, the two students used real-time polymerase chain reaction and indirect fluorescent immunohistochemistry to look at the prevalence and epidemiology of the infections. They were also fortunate to see a demonstration of a cheetah run. A grassy area served as a temporary cheetah racetrack, with a red flag serving as the cheetah's flag at the finish line. The nearly 70-mph speed of the cheetah made for difficult videography, the students said. Jayme and Jennifer are seen here collecting samples from lions, making friends with a cheetah and taking a guided (hand-led) horseback ride.

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Misty Bailey is the editor for the newsletter. She and Anik Vasington were also recognized with an APEX for their editing and design, respectively, of the Center of Excellence in Livestock Diseases and Human Health 2006 Annual Report.

Funding Deadlines Drawing Near

Deadline Sponsor Program Amount URL
Oct. 15 American Cancer Society Established & new investigators; post-docs Up to 200,000 www.cancer.org
Oct. 16 NIH R03, R21, R33, R34, & R36 Varies www.nih.gov
Nov. 1 Burroughs Wellcome Fund Pathogenesis of infectious disease Varies www.bwfund.org
Nov. 1 Morris Animal Foundation Established investigators & first awards ~4,000–100,000 www.morrisanimalfoundation.org
Nov. 3 Banfield Charitable Trust Human-animal bond, preventive healthcare for pets, educating children about animals 210-32,000 www.banfieldcharitabletrust.net
Nov. 5 NIH R01 renewals, reubmins, & revisions Varies www.nih.gov
Nov. 8 Susan G. Komen For the Cure Foundation Pre-proposals due Oct. 9 Up to 600,000 cms.komen.org/komen
Nov. 16 NIH R03, R21, R33, R34, & R36 renewals, reubmins, & revisions Varies www.nih.gov

Discovery: Research at the University of Tennessee College of Veterinary Medicine (2007) 2.3

Research Resource Spotlight

Editing Services

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Misty works on a first-come-first-served basis, and her turn-around time is usually a week or less for any type of document.

What should you expect from a technical editor?

An editor reads your document from the audience's standpoint and makes suggestions on how to clarify your writing, pointing out any potential areas of confusion. An editor checks for consistency and formats the document to fit specific journal or grant guidelines.

An editor also looks at your tables and graphs to help you arrange your data in the most straightforward way.

Who uses a technical editor?

Professors at all levels, native English speakers, and even the most published and funded writers use a technical editor.

Anyone whose first language is not English should use a technical editor. Even though most English-as-a-second-language writers know the rules of English better than native speakers, it is easy to confuse some of the subtleties of the language.

CVM Receives Over $1.5 Million for Sponsored Projects Since June

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Pharmacokinetic and pharmacodynamic effects of an oral and intravenous drug in horses

The efficacy of Seabuckthorn liquid supplement in prevention of gastric ulcers in horses

PPAR-gamma ligands in colorectal cancer

Gene alteration by NSAIDs

Nutrition technician

Preliminary clinical field trial to evaluate the safety and effectiveness of nisin-impregnated wipes as a treatment of canine bacterial pyoderma

Effects of resting insulin sensitivity on the acute response to endotoxin in horses

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Duretic renal scentigraphy in normal cats-pilot study

Influence of gender and sexual alteration status on feline adiponectin

Nutrition resident agreement

Infection with idiopathic epilepsy

Placebo-controlled field efficacy trial of a drug administered orally via transmucosal oral mist in client-owned dogs with osteoarthritis

Clinical evaluation of extracorporeal shock wave therapy for management of canine osteoarthritis of the elbow joint

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Center of Excellence in Livestock Diseases and Human Health efficacy field trial for the evaluation of a drug

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Pathogenesis of canine gastric ulcers

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Discovery: Research at the University of Tennessee College of Veterinary Medicine (2007 2.3)

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<td>Pathogenesis of infectious disease</td>
<td>Varies</td>
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<td>Established investigators &amp; first awards</td>
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<td>Banfield Charitable Trust</td>
<td>Human-animal bond, preventive healthcare for pets, and educating children about animals</td>
<td>210-32,000</td>
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Or Howard Plummer accepted Best Poster Award for “Tobacco carcinogens stimulate G-protein inwardly rectifying potassium channel 1 (GIRK1) protein expression in a small cell lung cancer cell line,” presented Sept. 11 at the Ion Channel Targets conference in Boston. Dr. Mathiu Dhar and Michael Hance, PhD candidate, were co-authors on the poster.

The award was sponsored by ePosters.net (The Online Journal of Scientific Posters) and Technology Networks.
Presenting "Pathologic Mycoplasmosis in green iguanas (Iguana iguana).
J Zoo Wildl Med. 2007;38:348-351.

Choudhary S, Wang ICR. Pro-apoptotic
ability of oncogenic H-Ras to facilitate apoptosis induced by histone deacetylase inhibitors in human cancer cells. Mol Cancer Ther. 2007;6:1099-111.


Representing the CVM at the 234th American Chemical Society National Meeting in Boston in August was Dr. Sherry Cox, who presented a poster entitled " Determination of bromide in canine plasma using ion chromatography. " Amanda Whiton and Heather Bowman were also authors on the poster.

Dr. Cheryl Cross presented "Pathological findings of domestic acid-exposed rodents" at the National Ocean Service in Charleston, SC, in June.

Dr. Hugo Eiler presented "Mycoplasmosis in green iguanas (Iguana iguana)."

Dr. Michael Hance presented a poster at the Ion Channel Targets Meeting in Indianapolis, IN, in July.

Dr. Marcy Souza presented "Pharmacokinetics of tranadol in bald eagles (Haliaeetus leucocephalus)" at the Association of Avian Veterinarians Annual Conference in Providence, RI, August 6-9, 2007.

Dr. Michael Hance and Sherry Cox also contributed to the presentation.

In June, at the Society of Veterinary Soft Tissue Surgery 6th Annual Meeting in Breckenridge, CO, Dr. Karen Tobin presented three lectures: postoperative management of extensive gastroctomy in dogs, the radiologist/surgeon relationship, and palate repairs.

At the July Animal Disaster Response Seminar in Knoxville, Dr. Matt Tempel presented "Euthanasia techniques for livestock." He also contributed to the Agriculture and Food Vulnerability Assessment Training Course in Chattanooga in August.

Dr. Tulio Prado gave a one-hour lecture on canine reproduction at the American Kennel Club Canine Health Foundation Breeders Symposium in Knoxville in August.

In June, Dr. David Rotstein gave a lecture on "Marine mammal pathology" for the six-day Sea Vet II course in Gainesville, FL. In July, he presented at the Department of Small Animal Medicine, Ludwig-Maximilians-University, Munich, Germany.

In July, at the Third International Conference on Communication in Veterinary Medicine in Washington, DC, Drs. India Lane, Elizabeth Strand, and Nancy Howell presented "Using reflection to reinforce learning in communication training, problem-based and early clinical experiences."

On August 9, Dr. Shelley Newman presented a case on bilateral ocular dermoids and nasal choristomas in a calf at the Midwest Association of Veterinary Pathologists meeting in Indianapolis.

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