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Discovery April 2006

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DISCOVERY



Research at the University of Tennessee College of Veterinary Medicine

Vol. 1, Issue 1
April 2006

Welcome!

A culture of discovery is developing rapidly within the CVM. Basic biomedical and clinical research interests are expanding, as are sponsored service programs. External funding from all sources reached an all-time high last year at \$6.3 million, 2.4 times greater than FY01. Expenditures followed a similar trend, with FY05 marking the fourth straight year of

increasing research expenditures. The current year is expected to continue these trends.

To meet the extra demands of this evolving discovery culture, the CVM Office of Research and Graduate Studies continues to upgrade its services. *Discovery* is a new CVM newsletter intended to highlight research and sponsored programs in the college and to provide information, including research opportunities.

Much of the information to be re-

ported in future quarterly issues must be provided by faculty and staff of the CVM. Please respond to queries, and volunteer information to enhance the value of this newsletter.

Robert N Moore

-- Dr. Robert Moore, Associate Dean for Research and Graduate Studies

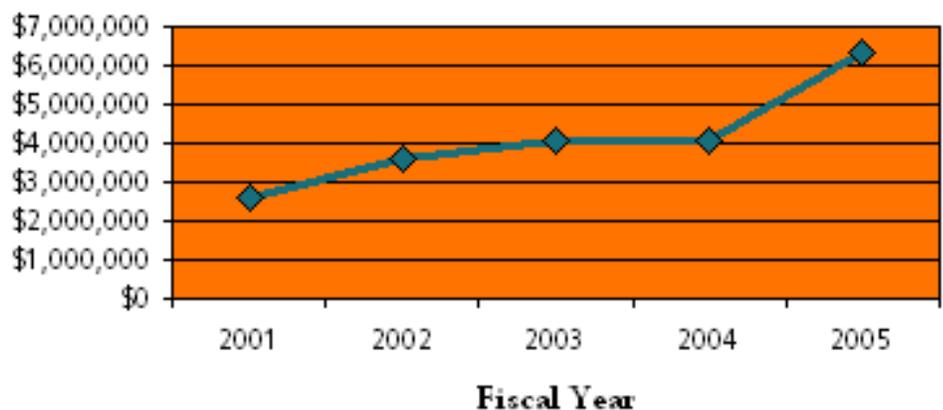
UT-CVM Research Funding on the Rise (Again)

Research and sponsored program funding at the CVM is on path to break another record this fiscal year. Since July 2005, the CVM has been awarded over \$6.3 million in external funding.

Dr. David Milhorn, UT's Vice President for Research, says that UT's funding totals represent the confidence the research world has in UT "as a resource for advanced research, skilled instruction and training, and timely public service."

Several of our researchers have already been awarded funding this quarter. In just three months, researchers at the CVM have been awarded \$1,046,786. See page 3 for a breakdown of the total.

Sponsored Project Awards FY01-FY05



UT and CVM Join KY/TN Consortium for National Bio- and Agro-Defense Facility

The U.S. Department of Homeland Security solicited Expressions of Interest (EOI) for a new, 500,000 sq. ft. National Bio- and Agro-Defense Facility (NBAF) to take over much of the research now conducted at the Plum Island Animal Disease Center. This new facility, operated at biosafety levels 3 and 4, is intended to provide upgraded protection of animal agriculture and to promote associated public health concerns.

For the March 31 deadline, an EOI

was submitted by the Kentucky/Tennessee NBAF Consortium. The Consortium is composed of the Commonwealth of Kentucky,



the State of Tennessee, the University of Kentucky, the University of Louisville, the University of Tennessee, and Oak Ridge National Laboratory.

The CVM is the primary UT participant in the Consortium and will benefit through proposed joint faculty appointments and access to the facility for CVM faculty, postdoctoral fellows, and graduate students.

The proposed NBAF is situated in Pulaski County, Kentucky, conveniently between member institutions. Competition for the NBAF is nationwide; however, the Consortium's EOI is strong and is expected to be well positioned in the competition.

New Faces

Filling the technical editor position for the college is **Misty Bailey**. Misty holds a master's degree in English and previously taught English composition and literature at UT and several other area colleges. Misty says of her new job, "It's very similar to grading student papers, except the writing is much better, I don't have to assign grades, and people actually appreciate my comments!"

She also has editing and grant proposal preparation experience. Should you seek editing work, take your manuscripts, grant proposals, and other documents by her office in A306 or e-mail them to mrbailey@utk.edu.

The Comparative and Experimental Medicine Graduate Program welcomed two new students for spring 2006.

Dr. Angela Lusby (inset, top) received her D.V.M. from UT in 2004



and is pursuing a Ph.D. under the direction of Drs. Claudia Kirk and Joe Bartges.

Her research will focus on using positron emission tomography technology to detect the presence of pancreatic islet cell amyloid in cats. Pancreatic amyloid is increased in type II diabetes and is thought to cause islet cell destruction.

Dr. Ferenc Toth (inset, bottom) is a veterinarian from Hungary pursuing an M.S. degree under Dr. Nick Frank. Dr. Toth completed a large animal internship here in 2005. His research will focus on the effects of endotoxemia on glucose dynamics in horses.

Pendergrass Library's Research Page Gets Makeover

Besides finding pertinent literature, what has a library got to do with research? *Everything.*

Our Pendergrass Library contains Web links specifically for researchers. There, you will find practical books to assist you in writing grant proposals and manuscripts as well as resources to help you convey your message visually through PowerPoint and illustrations.

If it's help with statistics or End-Note you seek, the library's Web page can point you in the right direction. And of course you can find online versions of just about every scientific journal via the library's databases.

Contact Ann Viera for more information, and if you haven't been taking advantage of the library's services, take a look at what you're missing:

www.lib.utk.edu/agvet/veterinary/cvm_fs.html.

Graduate Student Recently Overheard Saying . . .

"I'm looking for some quiet space of my own away from home and the lab, you know, to use just to store a few books and study."

Look no further. Hodges Library on the main campus has graduate carrels available.



Located on floors three through six, these reserved desks are available to currently enrolled graduate students throughout the year, and they have ample desktop area. Books may be checked out to the carrel for the entire academic year.

Contact the Hodges Library circulation department at 974-4351 for more information.

Funding Deadlines Drawing Near

Deadline	Sponsor	Program	\$ Amount/yr.	URL
Apr. 15	American Association for Lab Animal Science	Education/outreach programs for lab animal use	30K +/-	foundation.aalas.org/
Apr. 21	UT-CVM	Center of Excellence	up to 15K & 30K	Contact Lauren Witt
Apr. 24 (letter of intent)	Lance Armstrong Foundation	Basic/clinical testicular cancer	50K up to 2 yrs; 75K up to 3 yrs	www.livestrong.org
Apr. 27 (white papers due 4:00 p.m.)	U.S. Army	Basic bio, life, cognitive, & neural sciences; and chemistry	100K-400K	www.aro.army.mil/baa
Apr. 30	Alternatives Research and Development Foundation	Reduce or replace animal models	40K	www.ardf-online.org
Jun. 1	NIH	New R01, R03, R21, K series, P series, R25 educational	Varies	grants.nih.gov/grants/guide/index.html

Research Resource Spotlight

Community of Science

Community of Science (COS) is a research opportunity tool that allows registered users to receive funding alerts, search for experts in their field, and conduct literature research all in one location.

Funding alerts can be defined by each user so that only relevant funding opportunities are sent to an e-mail box. Up to five funding criteria sets can be created to search over 22,000 records that represent over 400,000 research opportunities worth more than \$33 billion.

The COS expertise search feature allows users to browse over 480,000 pro-



files from over 1,600 institutions. Users may search by expertise, keyword, region, institution, or name to find research collaborators perfectly suited to their interests.

Using COS's reference services, from one location, users can access several scientific databases, including MEDLINE, GeoREF, AGRICOLA, Federal Register, FedBizOpps/Commerce Business Daily, Funded Research, and U.S. Patents.

Anyone can set up a free account by visiting www.cos.com.

Research Paperwork Made Easy

Researchers new to the funding scene may not know about the paper trail that should accompany external grant proposals. That's where the CVM research filing information Web page comes in.

Links available include budget worksheets, routing forms, contract agreement forms, and compliance information. The "Proposal Routing and Forms" section lists the appropriate steps to take before submitting a proposal for an external grant.

Direct questions to Debbie Hampstead. View the page at www.vet.utk.edu/research/info/.

Over \$1 Million in External Funding Awarded This Quarter

Title	PI	Agency	Start date	Type	\$ Amount
Transplenic portography using a single detector helical CT: Comparison with transplenic portal scintigraphy and dual phase CT angiography	RL Echandi	AKC Canine Health Foundation	1/1/06	ACORN New	8,694
Transplenic portography using multi-row detector helical CT: Comparison with transplenic portal scintigraphy and dual phase CT angiography	RL Echandi	American College of Veterinary Radiology	1/1/06	New	5,000
Estrogen receptor antagonist and hair regrowth in dogs with follicular arrest	LA Frank	AKC Canine Health Foundation	1/1/06	New	9,936
Characterization of fluorine-18-fluorodeoxyglucose uptake in dogs with cutaneous mast cell tumor and malignant lymphoma	AK LeBlanc	AKC Canine Health Foundation	1/1/06	ACORN New	12,922
RNA interference of the glycoprotein-D and DNA polymerase genes of feline herpesvirus by synthetic siRNAs	RP Wilkes	Winn Feline Foundation	1/1/06	New	10,863
T regulatory cells in HSV immunity and immunopathology	B Rouse	NIAID	2/1/06	R01 New	359,350
2006 Merck-Merial Veterinary Scholars Research Grant	CA Kirk	Merck/Merial	2/28/06	New	10,000
ODPMGT 322 preparedness level course	SR Thompson	Knox County	3/1/06	New	17,700
Development and delivery of 8 hour awareness level course on agroterrorism and biosecurity	SR Thompson	Knox County	3/1/06	New	38,000
Development and delivery of 8 hour course on integrated response in an agricultural disaster	SR Thompson	Knox County	3/1/06	New	38,000
Development of video on animal handling in an animal disaster	SR Thompson	Knox County	3/1/06	New	35,000
Anti-cancer effects by the green tea catechins	SJ Baek	NCI	4/1/06	R21 Renewal	212,803
Pharmacokinetics of topically applied ciprofloxacin in canine tears	D Hendrix	AKC Canine Health Foundation	4/1/06	ACORN	5,724
Transplacental pancreatic carcinogenesis by NNK	HM Schuller	NCI	4/1/06	R01 Renewal	282,794

Recent Publications . . .

Aptula AO, Roberts DW, Patlewicz G, **Schultz TW**. Non-enzymatic glutathione reactivity and in vitro toxicity: A non-animal approach to skin sensitization. *Toxicol in Vitro*. 2006;20:239-247.

Baek SJ, and Eling TE. Changes in gene expression contribute to cancer prevention by COX inhibitors. *Rev Prog Lipid Res*. 2006;45:1-16.

Daniel GB, Berry CR. *Textbook of Veterinary Nuclear Medicine*. 2nd ed. Raleigh, NC: American College of Veterinary Radiology; 2006.

Freise K, **Martín-Jiménez T**. Pharmacokinetics of gemcitabine and its primary metabolite in dogs after intravenous bolus dosing and its *in vitro* pharmacodynamics. *J Vet Pharmacol Ther*. 2006;29:137-145.

Freise K, **Martín-Jiménez T**. Pharmacokinetics of gemcitabine and its primary metabolite in dogs after intravenous infusion. *J Vet Pharmacol and Ther*. 2006;29:147-152.

Fulcher RP, Ludwig LL, Bergman PJ, **Newman SJ**, Simpson AM, Patnaik AK. Evaluation of two-centimeter lateral surgical margin for excision of grade 1 and grade 2 cutaneous mast cell tumors in dogs. *J Am Vet Med Assoc* 2006;228: 210-215.

Kennedy MA, **Moore E**, **Wilkes RP**, Citino SB, **Kania SA**. Analysis of genetic mutations in the 7a7b open reading frame of coronavirus of cheetahs (*Acinonyx jubatus*). *Am J Vet Res*. 2006;67:1-6.

Mendis-Handagama SMLC, Di Clementi N, **Ariyaratne HBS**, **Mrkonjich L**. Detection of anti-mullerian hormone receptor II protein in the postnatal rat testis from birth to sexual maturity. *Histol Histopathol*. 2006;21:125-130.

Newman SJ, Steiner JM, Woosley K, Williams DA, Barton L. Histologic assessment and grading of the exocrine pancreas in the dog. *J Vet Diagn Invest* 2006;18:115-118.

Sykes JM, **Schumacher J**, **Avenell J**, **Ramsay E**, **Daniel GB**. Preliminary evaluation of ^{99m}technetium diethylenetriamine pentaacetic acid, ^{99m}technetium dimercaptosuccinic acid, and ^{99m}technetium mercaptoacetyltriglycine for renal scintigraphy in corn snakes (*Elaphe guttata guttata*). *Vet Radiol Ultrasound*. 2006;47:222-227.

Wan B, **Fleming JT**, **Schultz TW**, **Sayler GS**.

In vitro immune toxicity of depleted uranium: Effects on murine macrophages, CD4+ T-cells and gene expression profiles. *Environ Health Perspect*. 2006;114: 85-91.

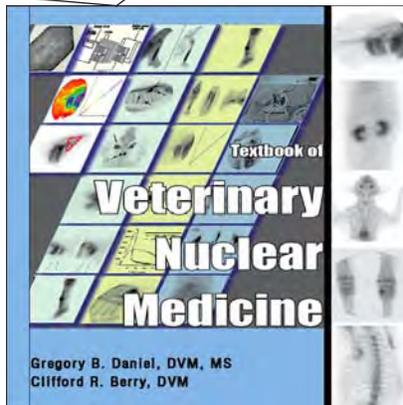
Wu WW, Wang G, **Baek SJ**, and Shen RF. Comparative study of three proteomic quantitative methods, DIGE, cICAT, and iTRAQ, using 2D Gel- or

LC-MALDI TOF/TOF. *J Proteome Res*. 2006;5:651-658.

Yamaguchi K, **Lee SH**, Kim JS, **Wimalasena J**, Kitajima S, and **Baek SJ**. Activating transcription factor 3 and early growth response-1 are the novel targets of LY294002 in a PI3K independent manner. *Cancer Res*. 2006;66: 2376-2384.

Yamaguchi K, **Liggett JL**, Kim NC, and **Baek SJ**. Anti-proliferative effect of horehound leaf and wild cherry bark extracts on human colorectal cancer cells. *Oncol Rep*. 2006;15:275-281.

Yu S, Wedekind KJ, **Kirk CA**, RF Nachreiner. Primary hair growth in dogs depends on dietary selenium concentrations. *J Anim Phys Anim Nutr* 2006;90:146-151.



. . . And Presentations

On March 10, **Dr. Steve Adair** gave talks entitled “Equine Rehabilitation” and “Hyperbaric Oxygen Therapy in the Horse.” He was an invited speaker at the National SAVMA Convention held in Minneapolis.

Dr. Claudia Kirk led several sessions on companion animal nutrition March 2 at the 2006 Penn Annual Conference, sponsored by the University of Pennsylvania School of Veterinary Medicine in Philadelphia.

In January, Dr. Kirk also presented at the North American Veterinary Conference in Orlando.

Dr. D.J. Krahwinkel was an invited guest speaker at the Oregon Veterinary Medicine Association in February. He presented four different surgical seminars to the audience of veterinarians and veterinary technicians in Corvallis, Oregon.

CVM Co-Hosts Reactive Toxicity Workshop

The College of Veterinary Medicine, in conjunction with the International QSAR Foundation, sponsored the 2nd Knoxville Workshop on Reactive Toxicity April 1-4.

The workshop, coordinated by Dr. T.W. Schultz, was convened to examine the use of the conceptual framework for reactive toxicity as an organizing principle in predicting adverse health effects without animal testing. The framework was developed at the first workshop held at the college last year.

This year’s workshop brought together 16 international experts in various areas of chemistry and toxicology to exchange ideas on a variety of topics, including skin sensitization, inhalation sensory irritation, and liver toxicity.

The Office of Research and Graduate Studies welcomes any research-related recommendations for inclusion in future issues. Please send requests to Misty Bailey at mrbailey@utk.edu.