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Knowledge Discovery Compassion

DISCOVERY

Research at the University of Tennessee College of Veterinary Medicine

Vol. 2, Issue 1
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IN COMPLIANCE

To be or not to be is no longer the question

by Robert Moore

Animal care and use, biosafety, environmental health and safety, human subjects, and radiation safety: If you do research at UT, you are aware of at least one, or perhaps several of these compliance entities. These are the areas of compliance that directly affect most researchers.

Often perceived as nuisances, the committees and compliance professionals supporting these areas keep the university compliant with laws and regulations that govern our ability to perform research. When there is failure in compliance oversight, breaches may result in unwanted inspections, audits, and fines to the university, as well as loss of accreditation and loss of investigator privilege.

Jeopardized current and future funding from external sources may also result from compliance breaches since both federal and private funding sources are placing greater emphasis on education and training to ensure the "responsible conduct of research." We are aware that dramatic changes in the past few years have resulted in increased paperwork and accountability for investigators. All these changes have resulted from changes in regulatory guides, and all have been necessary. This trend will assuredly continue as laws and rules governing compliance continue to evolve.

Compliance is not going away, no matter how much we may wish it to. To ensure your work meets committee approval and is performed within the appropriate standards, please take advantage of the expertise provided by compliance professionals and committee chairs. In addition, our office of research at the CVM can be very helpful in directing investigators to proper resources. Contact information is also available through VetNet.

Are Your Figures Color-Blind Friendly?

In Vol. 230, No. 4 of the *Journal of the American Veterinary Medical Association*, a "JAVMA News" story about animal cloning uses a figure similar to the one below (Fig. 1) to explain the cloning process. Although eyes that can see normal color ranges easily see how these two types of cells fuse, some color-blind people see it differently (Fig. 2).

Fig. 1. Fused cell figure as normal eyes see it. (altered from *JAVMA*. 2007;230:466)

*Fig. 2. Fused cell figure as color-blind eyes see it. (altered from *JAVMA*. 2007;230:466)

An estimated 8% to 10% of the male population (less than 1% of females) have problems distinguishing between red and green.[1] These problems can prevent some peer reviewers and readers in general from fully understanding the information being presented on the page.

In addition to computer-generated figures, fluorescent staining may present the color-blind reader with difficulties as well. In "How to make figures and presentations that are friendly to color blind people," the authors show how a color-blind person would see a fluorescent, double-stained micrograph containing red and green.[2] This same article explains options available to correct for potential color vision issues and how to select appropriate colors.

Tips for Friendly Figures[2]

- Communicate with color and shape, when possible.
- Avoid using greens and reds together.
- Use bright colors.
- Avoid using red on a dark background.

Journals like *Nature Structural and Molecular Biology* have altered their style guides to help color-challenged eyes be able to read graphs and figures: Contrasts of red and green are no longer permissible, and the journal recommends using *www.vischeck.com*, a Web service that simulates color-blind vision for any image and corrects images for color-blind readers.

* Color information from reference 2.

1. Shin YJ, Park KH, Hwang JM, Wee WR, Lee JH. A new color vision test to differentiate congenital and acquired color vision defects. *Opthalmology*. In press. E-pub ahead of print.
2. Okabe M, Ito K. How to make figures and presentations that are friendly to color blind people. Available at: http://jfly.iam.u-tokyo.ac.jp/color/index.html. Accessed March 20, 2007.

Three Graduate Students Earn Travel Awards

Amanda Peretich, **Mugdha Sukhthankar**, and **Nichelle Whitlock** won travel awards to the Experimental Biology 2007 Annual Meeting in Washington, DC.

Amanda and Mugdha won the prestigious American Society of Biochemistry and Molecular Biology Grad/Postdoc Travel Award. Nichelle received the esteemed ASPET/MARC Program Minority Graduate Student Travel Award from the American Society for Pharmacology and Experimental Therapeutics (ASPET) and the Federation of American Societies for Experimental Biology.

Amanda is an MS student working with Dr. Madhu Dhar. Mugdha and Nichelle are both working on PhDs with Dr. Seung Baek.

They will all be presenting posters of their work during the Apr. 28-May 2 meeting.

Fellowships Go to Two Veterinary Students

First- and second-year veterinary students **Jennifer Bernard** and **Melissa Mustillo**, respectively, will spend the summer engaging in research sponsored by a fellowship from the Morris Animal Foundation.

The foundation chose only 25 students from their international applicant pool. Fellowship recipients are invited (all-expenses-paid) to present a poster at the foundation's 2008 annual meeting, where they will be eligible to compete for an additional cash award.

Jennifer will be working with Dr. Melissa Kennedy on coronavirus detection in cheetahs, and Melissa will assist Dr. Joseph Bartges in studying calcium oxalate in cats.

Eight Veterinary Students Receive Special Recognition

Eight veterinary students were recognized in January for their outstanding participation in the 2006 Center of Excellence (COE) Student Summer Scholar Program.

The following students were honored with awards from the COE Program Committee: **Cat Ashe** (outstanding abstract), **Helen Reaves**, **Lora Abbott**, **Sharon Stone**, **Sandra Bates**, **Jody Markwardt**, **Karie Myers**, and **Kristi Sowers** (abstracts).

The awards were funded by Merck Merial, a co-sponsor of the Student Summer Scholar Program.

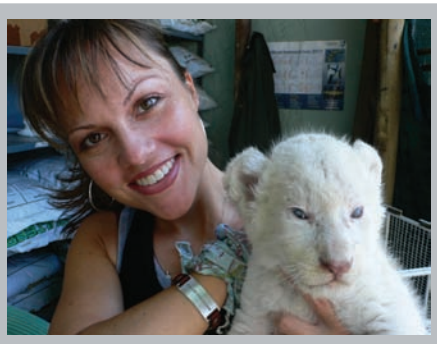
Millis Honored by World Small Animal Veterinary Association

Dr. Darryl Millis was the recipient of the WSAVA Iams Paatsama Award at the 31st WSAVA Congress in Prague, Czech Republic.

The award honors oustanding scientific achievement in orthopedic medicine and surgery, specifically in the fields of growth and skeletal development in large breed dogs.

Named after the late Prof. Saki Paatsama, a pioneer in canine orthopedic surgery and WSAVA president from 1977-1979, the award was first given in 2002. Past winners include Dr. Gail Smith, a leader in canine hip displasia treatment.

Feline Lentivirus Work Earns Adams Esteemed Award


Dr. Hayley Adams holding a South African lion

Dr. Hayley Adams received a Student Award from the American College of Veterinary Microbiologists for her oral presentation of "Feline Lentivirus: Molecular Analysis and Epidemiology in Southern African Lions" at the Conference of Research Workers in Animal Diseases, an international meeting held in Chicago in December.

Only 3 students each year receive this prestigious award, which is based on the content of the research paper and the quality of the presentation.

Dr. Adams is a PhD student working with Dr. Melissa Kennedy. As part of her program, she spent six months in South Africa working with researchers at the University of Pretoria. Dr. Adams is also a 2001 graduate of the CVM.

Comparative & Experimental Medicine Graduate Program to Host Research Day

Graduate students will be showcasing their research efforts this summer at the First Annual Comparative and Experimental Medicine (CEM) Graduate Student Research Symposium. Students have been invited to submit abstracts for both posters and oral presentations. Prizes will be awarded to students with the best oral presentations.

The goal of this symposium is to foster networks within the program by giving students an opportunity to share research results, exchange ideas, and network with scientists in a variety of disciplines.

The CEM program is interdisciplinary, with students studying in a wide variety of areas in both human and animal health.

All faculty, staff, and students are invited to attend the free event, which will take place on Friday, June 22, from 9 am until 4 pm.

Funding Deadlines Drawing Near

Deadline	Sponsor	Program	$ Amount	URL
Cont.	Elsa U. Pardee Foundation	Start-up funds for new cancer investigators	Up to 225,000	www.pardeefoundation.org
Apr. 1	American Cancer Society	Basic, clinical, epidemiology	200,000	www.cancer.org
Apr. 1	National Canine Cancer Foundation	Basic & clinical, high-impact, innovative cancer research in dogs	250,000	www.wearethecure.org
Apr. 1	Alpaca Research Foundation	Health, husbandry, genetics, or fiber	~6,000 to 35,000	www.alpacaresearchfoundation.org
May 31	American Association of Bovine Practitioners	2nd-year veterinary student scholarships	1,500	www.aabp.org
Apr. 2 & 16	Morris Animal Foundation	If full proposals requested	7,500 to 50,000	www.morrisanimalfoundation.org
May 15	AKC Canine Health Foundation	If full proposals requested	12,000 +	www.akcchf.org

Research Resource Spotlight

Free EndNote Web Now Available

A limited version of EndNote referencing software is now available free on the Web. With it, users may import up to 10,000 editable reference records in over 2,300 reference styles, including the *Journal of the American Veterinary Medical Association*, *BMC Cancer*, and the *Journal of Comparative Pathology*.

Not only does the program formulate and format references in the designated style, it also inserts in-text references into Word while you write. Although some journals do not allow reference-creating software because the codes it creates interfere with publishing software, EndNote Web has a feature to remove those codes once the manuscript is finished. To delete field codes before submitting a manuscript, go to *Tools*, *EndNote Web*, and *Remove Field Codes*. Be sure to save a coded copy of the document before removing codes because codes will be removed from the entire document, not just references.

The free version of EndNote has limitations compared to the full version, such as the inability to create and save advanced searches, or cite figures, tables, or equations. The full version costs around $200 for faculty/staff and $100 for students at the university.

To learn to use EndNote, see the tutorial on *www.endnoteweb.com*. The entire tutorial takes about an hour to complete, or individual components may be completed at different times (on average, about 4 minutes for each component).

Windows Vista Statistical Software Incompatability

Users of Microsoft's new, updated operating system, Windows Vista, may encounter compatability problems with some research software, including some versions of SAS and SPSS.

The newest SAS software, version 9.1.3, is not compatible with Vista, and SAS 9.2 does not have a definitive scheduled release date. Even with 9.2, SAS will not run on most computers marketed to consumers (that is, home computers). However, the newer version of SAS should support business editions of Vista.

SPSS version 15.0 also lacks compatability with Vista, and since a newer version has not been announced, software developers for SPSS plan to offer a free patch once the issues are resolved.

Although CVM computers will not make the Windows Vista transition anytime soon, researchers could be using the updated operating system on their own computers, and any new PCs will include Vista as the standard. Users of SAS or SPSS software may want to hold onto those 2003 and XP operating systems a bit longer.

CVM Receives Nearly $466,000 for Sponsored Projects Since December

Title	PI	Agency	Start date	Type	$ Amount
The evaluation of SIS for surgical repair of hysterotomy incisions at the time of cesarean delivery	HS Adair	Cook Biotech Inc.	2/15/07	Year 1 of 1	22,366
Validation of the use of the SmartPill capsule for measurement of transit time, pH, temperature, and luminal pressure in the gastrointestinal tract of horses	FM Andrews	Private industry	1/1/07	1/1	46,015
The efficacy of Seabuckthorn Liquid Supplement in prevention of gastric ulcers in horses	FM Andrews	SeaBuck Equine, LLC	2/1/07	1/1	10,725
Improved diagnosis and monitoring of equine endocrine disorders	N Frank	ACVIM	1/1/07	1/1	15,000
Molecular pathways that mediate genetic susceptibility to low dose ionizing radiation	SA Kania	UT-Battelle/ ORNL	2/15/07	1/1	22,206
Screening for antibodies to the 7b protein of feline coronavirus in cats for detection of persistent infection	MA Kennedy	Winn Feline Foundation	12/1/06	1/1	14,750
Characterize the hormone adiponectin in felids by determining cDNA sequence, mRNA expression, and molecular weight composition	A Lusby, C Kirk	Nestle Purina	1/1/07	1/1	5,938
Expansion of the shelter population index for cats: Phase 2 of a multi-institutional study	JC New	Winn Feline Foundation & George Sydney and Phyllis Redmond Miller Trust	12/1/06	1/2	21,330*
T Regulatory Cells in HSV Immunity and Immunopathology	BT Rouse	NIH	2/1/07	2/5	287,228
Hemostatic dressing	KM Tobias	DeRoyal Industries	2/12/07	1/1	7,105
Ivermectin levels in blood and cerebrospinal fluid from healthy llamas	SR Van Amstel	Merial Limited, LLC	2/9/07	1/1	13,260
* Total project funding					

Recent Publications . . .

Bailey M. Keynote address: The future of life and biologic publishing [annual meeting report]. *Sci Ed.* 2006;29:186.

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DeNovo RC. Traitement des maladies hepatiques chroniques foie chiens [Treatment of chronic liver disease in dogs]. *Pratique Medicale Et Chirurgicale De L Animal De Compagnie.* 2006;41:241-246; 261-268.

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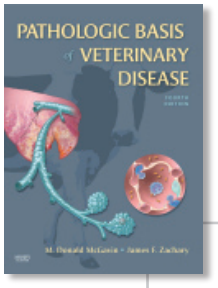

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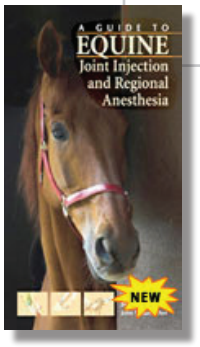

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Sargent SJ, Buchanan B, **Frank LA**, **Sommardahl CS**, **Kania SA**, **Rotstein DS**. Idiopathic systemic granulomatous disease. *Compend Equine Ed.* January 2007: 1-7.

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. . . And Presentations

In Dec. 2006, a poster by **Dr. Madhu Dhar, Helen Reaves, Dr. Carla Sommardahl, Deb Haines**, and **Joshua S. Yuan** was presented at the American Society for Cell Biology 46th Annual Meeting in San Diego, CA. The poster was entitled "Insulin signaling pathway in a novel mouse model of type 2 diabetes."

Also at the American Society for Cell Biology 46th Annual Meeting in December, **Michael Hance**, **Dr. Madhu Dhar**, and **Dr. Howard Plummer** presented a poster entitled "Tobacco carcinogens stimulate different signaling pathways in breast cancer."

Dr. D.J. Krahwinkel presented "Problems in the operating room" at the CanWest Veterinary Conference 2006 in Whistler, British Columbia.

Dr. Federica Morandi was at the University of Bern in Switzerland in December as an invited speaker for a week-long nuclear medicine short course. Dr. Morandi presented a series of lectures on scintigraphy.

On Dec. 6, **Dr. Jack Oliver** presented a 6-hour continuing education program to veterinarians at the Rhode Island Veterinary Meeting in Newport, RI. Topics in the session on "Laboratory diagnosis and treatment of endocrine disorders" included physiological and pathophysiological relationships of the adrenals; hyperadrenocorticism in dogs, cats, and ferrets; hyperestrinism, hypothyroidism, pheochromocytomas, and calcium disorders in dogs; hypoadrenocorticism and diabetes mellitus in dogs and cats; and feline hyperthyroidism.

On Jan. 26, **Dr. Patricia Tithof** presented "Environmental pollution & health risks: The Chattanooga Creek initiative" as part of the semester-long UT Science Forum.

THE UNIVERSITY of TENNESSEE
College of Veterinary Medicine

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