Public concern and federal regulatory oversight regarding the use of live animals for teaching invasive procedures is growing. In this watchful environment, what are schools of veterinary medicine doing to address the use of live animals in teaching while ensuring that students gain proficiency in the invasive procedures they will need when they graduate? On Wednesday, February 20, 2008, Dr. Howard Seim III (Department of Clinical Sciences) presented a seminar on this topic entitled “Live Animals for Teaching Invasive Procedures: What are the Options?” Dr. Seim examined what veterinary schools in North America, the UK and Europe are doing in this regard. In broad strokes, his finding is that the trend in the U.S. is toward more extensive use of models for teaching, and in the UK and Europe, veterinary schools have gone even further toward eliminating the use of live animals for training students on invasive procedures, especially major surgeries. Over the past decade and a half, U.S. veterinary schools have begun to extensively use models in teaching, especially for first and second year veterinary students to help them learn basic surgical skills. The use of models can provide excellent teaching and learning opportunities, allowing students to practice procedures in simulated but realistic clinical situations. Technological advances are allowing the development of ever more sophisticated models that integrate sensory stimulus with variable clinical presentations. For instance, students can practice palpation of cows utilizing a “haptic cow” model, while an instructor changes the clinical presentation of the animal, affording the students the
opportunity to experience (and practice diagnosing) multiple clinical situations before they begin working with live animals. Students can repeat procedures until they are comfortable in a controlled setting, and therefore are better prepared when they begin work with live animals.

CSU’s College of Veterinary Medicine has been using models in teaching since 1994, when Dr. Seim and others introduced the concept into the curriculum. CSU is one of the premiere North American institutions in terms of utilizing models in the teaching of invasive procedures. The CSU Anatomy laboratory utilizes a state-of-the-art DVD software program, *Virtual Canine Anatomy*, developed by Dr. Ray Whalen (Department of Biomedical Sciences) and CSU Veterinary students. This software provides virtual models of animal dissections to assist students in their necessary hands-on experience of dissection, provides the ability to review the anatomy they have dissected, and allows integration with additional information on the anatomical structures through use of the DVD. Schools around the world are using this software. Such a model allows for the highest quality instruction while simultaneously following the mandate from the Animal Welfare Act to reduce, refine, and replace live animals in research and teaching wherever scientifically feasible. The use of such models in teaching is not only a way to reduce the use of animals; it is also a way to provide a higher quality education to our students.

The Center for Alternatives to Animals in Testing at Johns Hopkins University provides an introduction to the alternatives to using animals in higher education. Other resources include European Resource Centre for Alternatives in Higher Education (EURCA), InterNICHE: The International Network for Humane Education, and NORINA Database: Audiovisual Alternatives to the Use of Animals in Teaching.

*Bill Moseley*
*IACUC Coordinator*

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1 Picture from: [http://www.cvmbs.colostate.edu/clinsci/faculty/seim.htm](http://www.cvmbs.colostate.edu/clinsci/faculty/seim.htm)
2 Picture from: [http://www.live.ac.uk/html/projects_haptic_01.html](http://www.live.ac.uk/html/projects_haptic_01.html)
3 Picture from: [http://www.cvmbs.colostate.edu/bms/whalen.htm](http://www.cvmbs.colostate.edu/bms/whalen.htm)
4 Picture courtesy of Ray Whalen

**Introducing – Two Important Behind-the-Scenes Employees at RICRO!**

If you are a PI with a green form on your desk reminding you to renew or close one of your protocols, you have one of our work-study students to thank for this (and mailing reminders is just an example of one of their many duties!). The flow of paperwork in our office is an intense process, and it takes all of the RICRO staff working together to make sure that protocols are reviewed, renewed, and processed on-time and accurately. We are fortunate to have two outstanding work-study students on our team who we would like to introduce: LeAnna Shelby and Isaac Anthony.

LeAnna, a senior Biology/Biomedical Science Major, has been a part of the RICRO staff since 2004. She came to CSU from Thornton High School (she was class Valedictorian and on the cheerleading squad). LeAnna has the uncanny ability to find most elusive files, and has been
a key member of the IRB group since she began working at RICRO. LeAnna will graduate next winter term and is looking at career options in the forensics field. In her free time, she enjoys mystery novels and tries to make the time to visit her six-year-old brother in Denver. When asked what she likes about working at RICRO, she said that she enjoys the staff and the relaxing environment.

Isaac Anthony is our resident Excel wiz and master of the scanner. He came to RICRO 2.5 years ago from Denver (downtown Denver was his neighborhood!), and is a junior majoring in Civil Engineering. Isaac is excited to be on the Steel Bridge Competition Team that will be competing in Golden, Colorado the first week of April with their awesome 20-foot bridge. After completing his degree, Isaac is hoping to work as a structural engineer in the Denver area. Like LeAnna, Isaac enjoys the relaxed atmosphere and his co-workers at RICRO. He says that RICRO has “a lot of very different personalities, but it works out perfectly.” Thanks, Isaac! We like to think the same.

Thank you for your work on our team, LeAnna and Isaac! We couldn’t do it without you!

**Upcoming Events – March - April 2008**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Tuesday, March 25:</td>
<td>IRB Human Subjects Protection Training Session (1:00-3:30 - RICRO)</td>
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<tr>
<td>Thursday, March 27:</td>
<td>IRB Meeting</td>
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<tr>
<td>Tuesday, April 1:</td>
<td>Basic Research Techniques with Guinea Pigs (noon – 3:00 p.m.)</td>
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<tr>
<td>*Tuesday, April 8:</td>
<td>IACUC Protocol-Submission Deadline (Noon)</td>
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<tr>
<td><strong>Thursday, April 10:</strong></td>
<td>IRB Protocol-Submission Deadline (Noon)</td>
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<tr>
<td>Tuesday, April 15:</td>
<td>IACUC Meeting</td>
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<tr>
<td>Thursday, April 17:</td>
<td>IRB Meeting</td>
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<tr>
<td>Wednesday, April 23:</td>
<td>IRB Human Subjects Protection Training Session (1:00-3:30 - RICRO)</td>
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*Remember: IACUC submission deadline is always noon the second Tuesday of the month.

**Remember: IRB submission deadline is always noon the second Thursday of the month

**Institutional Biosafety Committee – Survey Says!!**

The survey results are in, and I am pleased to announce that the majority of respondents are very happy with the job being done by the IBC. Most comments were positive, including many comments regarding how much the IBC users appreciate the online system. For example, someone said, “I love the electronic system!” whereas another person commented, “…being able to renew electronically saves a huge amount of time…”. We did receive a few suggestions on things the IBC could do better. Some of you felt that the IBC should meet more often or consider reviewing protocols prior to the scheduled meeting if there was an urgent need for approval. The IBC will be sticking with bi-monthly meetings at this time, but now when you submit a protocol, you will receive a message indicating when it will be reviewed and if there is an urgent need to have the protocol reviewed before
this date, you will have an option to request an earlier review. You will be required to provide a rational for an earlier review. Another suggestion was that perhaps the committee expertise could be broadened. We are evaluating the current committee composition and looking into the possibility of adding a new member once this process is completed.

Thank you again to those who took the time to fill out the survey. Your comments are greatly appreciated and will help to make the IBC even better. I would also like to thank the IBC members for their time and commitment to the committee, and a special thank you to Dr. Richard Bowen for all of his hard work to make the IBC online system a huge success.

Christine Johnson  
IBC Senior Coordinator

RICRO - Takes to the Air!

In early February, Molly Gutilla traveled to Las Vegas for 3 days of PRIM&R training courses including "IRB 101" and "IRB Administrator." Attendees included IRB administrators, IRB committee members and PIs from across the country. Topics discussed ranged from the description of the essential components of a Human Research Protection Program (HRPP) to the experience of being a human research subject. One interesting website that Molly learned about at this meeting that she would like to share with our readers is: www.guineapigzero.com. This website contains information about bioethics and writings by human research subjects.

Because CSU is an institutional partner in the Kuali Research Administration software development effort, RICRO is participating in the creation of research compliance modules. On February 26-29, 2008, the Kuali partnership held a Face-to-Face meeting of the individuals involved in developing the proposal, budget, and human subjects modules of the research administration software in Detroit, MI. Bill Moseley represented RICRO at this productive session; also attending were Pam Harrington from Sponsored Programs, as well as Tyler Wilson and Ron Splittgerber from Research Services. For more information on the Kuali partnership visit http://www.kuali.org/communities/kra/index.shtml.

Laura Martin will be representing CSU at the PRIM&R 2008 Annual IACUC Conference in Atlanta, GA, March 27-28. In addition to attending sessions on ethics, compliance and best practices of IACUCs, Laura will be presenting a poster on the “Compliance Community at Colorado State University,” co-authored by Dr. Lynne Kesel and Ms. Denise Ostmeyer. While in Atlanta, Laura will also attend the “Essentials of IACUC Administration” pre-conference event, co-sponsored by the Office of Laboratory Animal Welfare.

Kathy Partin heads off to the upcoming "Responsible Conduct of Research (RCR) Education, Instruction, and Training" conference hosted by the Office of Research Integrity & Washington University, School of Medicine in St. Louis, MO April 17-19, 2008. Also attending will be Dr. Ellen Fisher, Associate Professor of Chemistry, on behalf of the College of Natural Sciences. The focus of this conference is sharing information about RCR education, instruction and training methodologies.

RICRO Hosts PRIM&R webinar, “Top Tips for 2008: What Every IACUC Should Know”

The Public Responsibility in Medicine & Research (PRIM&R) organization presented a 90-minute webinar, featuring four PRIM&R faculty members with expertise in animal care programs. Attending from CSU were Kathi Delehoy (OVPR), James Owiny (University Veterinarian), members of the CSU IACUC (Terry Engle, IACUC Chair), RICRO staff and LAR residents; the webinar was organized by
Laura Martin, RICRO Senior IACUC Coordinator. Important discussions included how to improve the IACUC’s culture, composition and communication skills, how to expedite protocol review without getting out of compliance, how to enhance post-approval monitoring of protocol activity without hiring new staff, and how to effectively manage incidents of non-compliance related to animal research. The topics presented were interesting and informative, and having this unique assembly of stakeholders together in one room, hearing one message, made for an outstanding learning opportunity. RICRO hopes to be able to offer the fruits of these labors with improvements in the review of animal protocols on campus in the very near future. For more information, go to http://www.primr.org/.

**Upcoming Event - “Hot Topics for IRBs & HRPPs”; Apr. 16, 2008 @ 12 noon.**

Join RICRO for an interactive learning experience from PRIM&R. This 90-minute web-based seminar, or “webinar,” is an intermediate-level program that will address some of the most frequently vexing issues facing institutional review board/human research protection program (IRB/HRPP) professionals and will provide in-depth information and concrete strategies for enhancing your IRB’s or HRPP's operations. Examples of best practices will be given, and participants will gain insights into areas in which enhancement of their policies and procedures may be needed. Please let us know if you are interested in attending!

**IACUC Changes the A-100**

Please be aware that RICRO is working with the IACUC to make changes to the animal protocol form (A-100) in order to clarify some of the questions and to make the form easier for investigators to complete and reviewers to read. Some questions have been eliminated, others have been re-worded; however, at quick glance, the form still looks largely the same. Because additional changes are being made on an ongoing basis, please be sure to visit http://web.research.colostate.edu/ricro/acuc/forms.aspx to download the current version when preparing new animal protocol applications.

Also, please note that the IACUC used to prefer that you attach your SOPs to your A-100, but now prefers that you put all relevant information into the A-100 and not attach SOPs. Please contact RICRO if you have any questions about your A-100 or SOPs. As we begin to make progress towards electronic protocol submission, you will probably notice many such incremental changes in the A-100; please bear with us. Also, if you want input into this process, the IACUC is always looking for researchers to help make the A-100 more user-friendly; please contact us if you are interested!

**The University Veterinarian Presents….**

**Basic Research Techniques with Guinea Pigs** on: Tuesday, April 1st from 12:00 – 3:00 p.m. This workshop is designed to provide an introduction to a variety of procedures for those who are new to rodent research, and an opportunity for all researchers to practice and refine their skills. Each segment will include a demonstration and detailed explanation of the procedures, followed by hands-on practice.

Topics will include; handling, restraint, animal identification, injections, blood collection, and euthanasia.

This course will be limited to 10 participants, and pre-registration is required. For more information or to register, contact Denise Ostmeyer at: 491-7184; denise.ostmeyer@research.colostate.edu.

**Frequently Asked Questions and Answers**
Q: I just sent an email to RICRO indicating that I wanted to close my animal protocol. Do I need to do anything else?

A: Yes! You need to be sure that any animals you may still have on that protocol are transferred to a new protocol. RICRO can’t inactivate your protocol until we have a final count of how many animals you used, and we know that there are no animals remaining on that protocol. You can expect a friendly notification from Molly asking these two important questions.

Q: When I submit a protocol to RICRO, can I assume that its contents would never be released to the public?

A: No, not really. Colorado State University is a public institution, and the citizens of Colorado are guaranteed the right to know what kind of research activities take place on campus. Although proprietary information may be withheld, the institution’s policy is to release information regarding proposed activity, under the Colorado Open Records Act. Of course, names and specific locations of research activities identified on protocols are typically redacted prior to being released, for the security of lab personnel.

eProtocol’s Personal Touch

As the IRB moves closer to online protocol submission and review using eProtocol (KeySolutions, Sunnyvale, CA), two of the company’s technical consultants flew into a Colorado snowstorm to help us refine our process. The work-session was joined by Ken Katona (Office of Training & Organizational Development), and two PIs that use human research subjects, Drs. Donald Zimmerman (Journalism & Technical Communication) and Marc Winokur (School of Social Work). In addition to discussing the IRB electronic process, the visit allowed CSU to preview the eProtocol IACUC module; that session was attended by Dr. Terry Engle, the IACUC Chair. We are excited about this team-approach to developing the online protocol systems. Please let us know if you, too, would like to participate in this process.