Important Message from the PACUC Office

As we begin a new academic year, with new students, staff and programs, I wanted to highlight a few important issues regarding utilization of vertebrate animals in research, teaching, and testing activities. Purdue policy and federal regulations require that, prior to any use of vertebrate animals in research, teaching, or testing, a protocol describing that use must be reviewed and approved by the Purdue Animal Care and Use Committee (PACUC). A critical component of PACUC’s responsibility is the documentation that all individuals who will participate in the activity involving vertebrate animals have received appropriate training to ensure that they are qualified for their role in the project.

There are important actions necessary for those investigators with active, approved protocols for use of animals, and new postdoctoral, student, or technical staff joining their research, teaching, or testing projects.

First, before new personnel work with vertebrate animals at Purdue University, they must participate in an orientation session provided by the PACUC and Purdue Laboratory Animal Program (LAP). While the intended audience of these orientation sessions is new personnel, current staff is welcome and encouraged to attend. A live session is being offered on Tuesday, September 7, 1:30-3:00 p.m., in STEW 202. Please pre-register for this orientation program by emailing ldsnider@purdue.edu.

Second, before new personnel begin independent work on a project they must receive training appropriate to their role. During this period of training, the individual may work with animals only under direct supervision by a qualified person. Finally, when training is complete and the individual is ready to begin independent work under the approved protocol, the individual’s qualifications must be documented to PACUC through submission of an animal use qualification form (http://www.purdue.edu/research/vpr/rschadmin/rschoversight/animals/docs/QForm.pdf), and the new personnel must be formally added to the project through an amendment to the protocol.

Please note that requirements for PACUC/LAP general orientation, providing and documenting project-specific training, and adding personnel to protocols apply to any and all individuals who will work directly with or care for vertebrate animals at Purdue, regardless of whether this activity is short term or long term. Thus, the requirements apply equally to temporary postdoctoral associates, students, and technical staff working on projects, or graduate students experiencing laboratory rotations before selecting an advisor, as they do to full time, permanent staff.

All forms necessary to submit or amend a protocol, or to document qualifications, are available on the PACUC/LAP website [www.purdue.edu/animals]. If you have any questions regarding these requirements or wish assistance with training, protocols, or documenting qualifications, do not hesitate to contact the PACUC/LAP office at 494-9163.

Best wishes for a rewarding and productive academic year!
Lisa Snider, CPIA
PACUC Administrator
During the one-week long visit, AAALAC-I site visitors will evaluate areas where animals are housed and used including individual investigator laboratories where animals might be taken for a procedure, euthanasia, etc.

In preparation for a possible visit to your laboratory or your contact with a member of the site visit team in the animal facility, it is prudent to be aware of the following:

Are all members of your laboratory (faculty, staff, and student)
- Familiar with the approved PACUC protocol (e.g., have read/know where a copy is located and the procedures that have been approved by the PACUC)?
- Familiar with the point at which an animal on protocol should be euthanized?
- Aware of how to report animal concerns?
- Aware of how to seek veterinary care for animals?
- Aware of the Occupational Health Program for individuals with animal contact?
- Aware of hazards they may be exposed to and aware of location of the Material Safety Data Sheets (MSDS) for substances kept in your research, study or surgery areas.
- Aware that food and drink are not allowed to be stored or consumed in any animal housing, surgery, or procedure areas.
- Aware of the PACUC policy on training? Are records maintained as needed to comply with this policy?
- Aware of the PACUC policy regarding transport of animals?
- Aware of PACUC animal policies in general as posted on the PACUC/LAP website?

http://www.purdue.edu/research/vpr/rschadmin/rschoversight/animals/policies.php

Keep your laboratory neat and organized – this says a great deal about the lab. Spruce up but don’t shut down.

Have all drugs / substances being used with animals been checked for expiration date and discarded if expired?

If applicable and if active animal research is ongoing, are the anesthetic and analgesic agents listed in the protocol readily available?

Recall that surgical records are required for all species, including rodents. These records are to include information on the administration of anesthetics, fluids and any drugs; type of procedure; intra-operative monitoring, post-operative recovery observations and treatment, including administration of analgesics and antibiotics; daily monitoring of the animal and incision healing; and the initials of the individual performing these tasks. All medications, including the name, dose, route, and time of administration should also be recorded.

Aseptic technique is required for survival surgery in all species that includes use of sterile equipment, suture material, wound clips, etc.

The PACUC policy and sample Post-Operative Monitoring Records that you and your laboratory staff need to be familiar with are available at the PACUC website.

If you need assistance with any of the above areas, please do not hesitate to contact the PACUC/LAP office at 4-9163.

Again, the policies referred to above and others can be found at the following URL:
http://www.purdue.edu/research/vpr/rschadmin/rschoversight/animals/policies.php

Once the dates for the site visit are determined (September-October- November 2010), PACUC/LAP will plan to disseminate this information widely. Knowledgeable research personnel are encouraged to be available during the AAALAC-I visit to discuss the scientific objectives of their animal use projects.
Testing Cell Lines for Rodent Infectious Agents

Last winter, through the Laboratory Animal Program’s sentinel program, a large colony of Purdue University mice was discovered to have mouse hepatitis virus. Since then, two other mouse colonies at Purdue University were found to have mouse parvovirus. Both of these viruses as well as other mouse pathogens can affect research results. Mice infected with common mouse pathogens are often culled and restocked with clean mice or go through the long rederivation process to establish clean colonies of important gene modified mice. It is always difficult to determine where these pathogens originate but tumor transplants, tissues, and cell lines when implanted into naïve animals may serve as a source of infection. Please read the following guidelines for testing potential sources of rodent pathogens prior to their use in important research rodents.

Research rodents are readily infected by a number of viruses and bacteria which may produce disease and/or significantly alter experimental data. To successfully prevent spread of such agents, it is important that the microbiologic status of rodents housed within research facilities be periodically evaluated.

Many infectious agents of rodents can be carried in cell lines and tissues which, when implanted into naïve host animals, may serve as a source of infection. To minimize the likelihood of inadvertent infection of specific pathogen-free rodents with these agents, tumors, tissues, cell lines, and ascites fluid should be evaluated for contamination prior to experimental use in vivo.

Two methods are currently available for testing of biological substances to be implanted in rodents, namely the Mouse Antibody Production (MAP) test or through use of PCR-based testing such as the Infectious Microbe PCR Amplification Test (IMPACT).

The mouse antibody production (MAP) test is a procedure used to test for the presence of murine viruses and bacteria in transplantable samples. In this procedure, disease-free mice are inoculated with a sample of the material being tested and housed in isolation for 4-6 weeks. At the end of this time, serum is collected from the mice and assayed for the presence of specific antibodies to a panel of viruses and bacteria of murine origin. The test may be conducted by the investigator or by a commercial firm such as Charles River Laboratories, Inc. and can be adapted for materials to be implanted into rats, guinea pigs, and hamsters as well as mice.

The University of Missouri Research Animal Diagnostic Laboratory (RADIL) currently offers a faster and less expensive alternative to MAP testing through use of their IMPACT PCR-based testing. For DNA and RNA viruses, they have demonstrated comparable or improved sensitivity of virus detection compared to the MAP test and offer a turn-around time of approximately 10 business days.

MAP/IMPACT testing of materials to be implanted into mice often includes assays for the following viruses and bacteria:

- Mouse parvovirus
- Mouse hepatitis virus
- Murine Norovirus
- Reovirus type 3
- Lymphocytic choriomeningitis virus
- Mouse cytomegalovirus
- Mycoplasma pulmonis
- Lactate dehydrogenase elevating virus
- Mouse thymic virus
- Theiler’s mouse encephalomyelitis virus (GDVII)
- Pneumonia virus of mice
- Minute virus of mice
- Sendai virus
- Ectromelia virus
- K virus
- Hantaan virus
- Mouse adenovirus
- Polyoma virus
- Rotavirus

The Laboratory Animal Program can offer investigators advice in testing of samples. Additional panels are available for rat pathogens. MAP/IMPACT testing results of individual samples obtained should be forwarded to the Laboratory Animal Program for disease surveillance purposes.

Further information on the effects of some infectious agents on research can be found at:

I will be offering the following training workshops with a maximum of 5 participants in each session.

These 1.0 – 2.5 hour hands-on workshops are designed to introduce the participant to the basic techniques in the laboratory rat and mouse. The Handling/Restraint workshop is a prerequisite for participation in Injection, Blood Collection, and Catheter placement workshops; unless participant has previous training and/or experience in this area. A minimum of 3 days notice is requested for cancellation.

Workshop dates are filled on a first-come, first-serve basis.

Location for the following workshops – Meet in AHF 1155.

If you are interested in participating in a workshop, please complete the enrollment form indicating which date you would like to attend, or contact Carol Dowell at dowellc@purdue.edu or 494-2521. (If the following times do not fit your schedule or training needs, I would be happy to set up training for most any species on an individual basis.)

Registration form: Attached to the email that brought you this newsletter

1. **Basics of Rodent Handling, Restraint, and Normal Behavior.**
   - 8/31/10 - Tuesday 8:30 – 10:00am
   - 9/2/10 – Thursday 1:30 – 3:00pm
   - 9/14/10 – Tuesday 8:30 – 10:30am
   - 10/1/10 – Friday 8:30 – 10am

2. **ALZET Osmotic Pump: pump implantation techniques.**
   - 10/19/10—Tuesday 9:00—11:30am

3. **Rat Intubation**
   - 10/21/10—Thursday 9:00—11:00am

4. **Isoflurane Gas Anesthesia**
   - 9/14/10 – Tuesday 1:30 – 3:30pm
   - 10/5/10 – Tuesday 9 – 11:00am

5. **Injections in the rat and mouse; ID, IV, IM, SC, IP**
   - 9/7/10 – Wednesday 9 – 10:30am
   - 9/16/10 – Thursday 9 – 10:30am

6. **Blood Collection in the Rat and Mouse**
   - 9/10/10 – Friday 8:30 – 10:30am
   - 9/20/10 – Monday 9:00 – 11:00am

7. **Tail Vein Injection and Catheter Placement in the Lab. Rat and Mouse**
   - 9/22/10 – Wednesday 8:30 – 10:30am
   - 10/7/10 – Thursday 9:00 – 11:00am

8. **Rodent Oral Gavage.**
   - 9/9/10 – Thursday 9 – 10:00am

9. **Aseptic Technique and Suturing Basics**
   - 9/24/10 – Friday 9 – 11:00am
   - 10/1/10 – Friday 1 – 3:00pm
Helpful Guidelines for Research Involving Wildlife

Gary P. Carlson, PACUC Chair

There are many books and journal articles which provide up-to-date and valuable information on the use of analgesics, anesthetics, and agents for euthanasia in what are considered typical laboratory animals. An example is the AVMA Guideline on Euthanasia.

When it comes to the use of such agents in wildlife, the available resources for general or specific species are not as widely known. Recently, PACUC updated its website with complete and downloadable copies of some important guidelines. These are found by going to the section on “Additional Information” and looking under the subsection “Related Links” which has a listing entitled “Field Laboratory Resources”. The Guidelines to the Use of Wild Birds in Research is from the Ornithological Council and presents detailed information on collecting and trapping, marking, transporting, and minor manipulative procedures as well as restraint, anesthesia, surgery and euthanasia. The Guidelines for the Use of Fishes in Research is from the American Fisheries Society, American Institute of Fisheries Research Biologists and the American Society of Ichthyologists and Herpetologists and considers not only field activities with fish, for example, sample collection, but also animal welfare considerations such as stress and pain. Laboratory activities such as feeding and housing are also discussed in detail. Disposition and euthanasia are covered extensively.

The publication Guidelines for Use of Live Amphibians and Reptiles has been put out by the American Society of Ichthyologists and Herpetologists. Not only does it describe research with these species including such topics as collecting, handling, anesthesia, restraint, blood and tissue sampling, marking, housing, and euthanasia, but it also has a section on the role of the Institutional Care and Use Committee. Another very useful document is entitled Guidelines of the American Society of Mammalogists For The Use of Wild Mammals in Research. From the Journal of Mammalogy (88:809-823, 2007), it succinctly covers trapping, marking, and maintenance of wild caught mammals as well as euthanasia. Although not on the website, additional help is also available from other publications such as the Guidelines on the Care and Use of Fish in Research, Teaching and Testing which has been published by the Canadian Council on Animal Care.

PACUC Meeting Dates

<table>
<thead>
<tr>
<th>Meeting Date</th>
<th>Deadline for Protocol Submission</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 15</td>
<td>August 25 at 5:00 p.m.</td>
</tr>
<tr>
<td>October 20</td>
<td>September 29 at 5:00 p.m.</td>
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<tr>
<td>November 17</td>
<td>October 27 at 5:00 p.m.</td>
</tr>
<tr>
<td>December 15</td>
<td>November 24 at 5:00 p.m.</td>
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