PACUC Newsletter

Purdue Animal Care and Use Committee

September 2017

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Related Websites

PACUC website—
forms, policies,
guidelines, links for
Occupational
Health & Animal
Qualifications info,
etc.

www.purdue.edu/
animals

Occupational
Health Info:

http://
www.purdue.edu/
research/
research-
compliance/
regulatory/care-
use-of-animals/
occupational-

Welcome Aboard

~~~~~~ PACUC Orientation Program ~~~~~

for Vertebrate Animal Users

An orientation program for new faculty, staff, and students, who will be using vertebrate animals in research, teaching, and/or testing, will be held on the following date during the fall semester.

Tuesday, September 5, 2017: 1:30-3:00 p.m. in STEW 278.

Attendance at this session is mandatory for new personnel (i.e., faculty, staff, students) who wish to initiate work with vertebrate animals at Purdue University. Personnel will not be approved to work with animals until such time that they have attended the orientation program or completed an equivalent on-line module through the CITI training program. We strongly encourage participating in an “in-person” program; however, it may be completed on-line if your schedule does not allow for in-person participation. Please contact the PACUC office (pacuc@purdue.edu) for information on how to complete it on-line.

This program presented by staff of the Purdue Animal Care and Use Committee (PACUC) and the Laboratory Animal Program (LAP) is designed to introduce you to the Purdue system for maintaining regulatory compliance with federal and University guidelines and insuring humane care and use of animals.

Registration is required to attend the orientation program and may be done via e-mail to the PACUC office at pacuc@purdue.edu. Your name, department, and e-mail are necessary for registration.
Are you interested in rodent gas anesthesia options?

Please join me Thursday September 7, 2017 anytime 11am – 2pm for a live demonstration of the Kent Scientific SomnoSuite Low-Flow Anesthesia System. A representative will be on site to answer any of your questions.

Where: AHF 1137; (Training Lab)  
When: 9/7/17 anytime 11am – 2pm  
Why: To learn details of the Low-Flow anesthesia system.

The Kent Scientific SomnoSuite® Low-Flow Anesthesia System is designed to deliver anesthesia at flow rates proportionate to a small animal’s size. Engineered with an electronic vaporizer, SomnoSuite produces precise amounts of anesthesia mixture that require very little isoflurane. Isoflurane is delivered via syringe and mixed with room air or compressed gas at concentrations based on the animal’s weight and delivered at the proper flow rate. Compared to traditional vaporizers which deliver 500ml/min, the SomnoSuite delivers ~50ml/min for a 30g mouse (1.5-2.2 x mv). Less anesthesia not only benefits the animal, but significantly reduces the risk of exposure to lab personnel from waste anesthesia gas. Additionally, the SomnoSite is certified factory calibrated, unlike traditional vaporizers which require annual certification. Physiological monitoring modules may be added to the SomnoSuite to form a complete suite for rodent surgeries.

-Carol Dowell, Training Coordinator
Adding Students to an Approved PACUC Protocol and the Animal Exposure Occupational Health Program (AEOHP)

Any student who is working with vertebrate animals as part of an approved protocol is eligible to participate in the AEOHP. Below are steps to be taken to ensure that students are appropriately listed on protocols and receive information on the AEOHP. For more complete information on the AEOHP, please refer to the following website: [http://www.purdue.edu/research/research-compliance/regulatory/care-use-of-animals/occupational-health.php](http://www.purdue.edu/research/research-compliance/regulatory/care-use-of-animals/occupational-health.php)

For Students Working on Approved PACUC Protocols:

The student must complete an Animal Use Qualification Form (Q form) and Risk Assessment (RA) Form if they will be working unsupervised with animals on an approved protocol and submit it to the PACUC office. This web page has detailed instructions on this process. [http://www.purdue.edu/research/research-compliance/regulatory/care-use-of-animals/qualification-training.php](http://www.purdue.edu/research/research-compliance/regulatory/care-use-of-animals/qualification-training.php)

Once the RA Form is received, a Risk Summary (Summary) is completed by the PACUC office detailing the risks associated with working with animals. This Summary is sent back to the person along with a Participation/Declination Form. If a student wishes to participate in the occupational health program, information is provided to them on how to make their appointment with the Regional Occupational Care Center for an exam.

The student(s) must be added to the PI’s approved protocol via an Amendment. This Amendment must be reviewed and approved by PACUC before the student may work with animals unsupervised. [http://www.purdue.edu/business/coeus/IACUC Protocols/Investigator_Guide_IACUC/index.html](http://www.purdue.edu/business/coeus/IACUC Protocols/Investigator_Guide_IACUC/index.html)

Please contact the PACUC office if more information is needed on this process. pacuc@purdue.edu
As we begin a new academic year with new faculty, staff, and students, 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). For faculty and senior research staff, the following URL provides needed information on how to submit a protocol application to PACUC: http://www.purdue.edu/research/research-compliance/regulatory/care-use-of-animals/protocol-submission.php.

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 assure that they are qualified for their role in the project and that all individuals have received an occupational health risk assessment of their work with animals. Please refer to the following URL for more information on how to complete an Animal Use Qualification Form and Risk Assessment Form: http://www.purdue.edu/research/research-compliance/regulatory/care-use-of-animals/qualification-training.php.

There are several 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. Before new personnel work unsupervised with vertebrate animals at Purdue University, they must complete the required Animal Use Qualification Form and on-line modules using the CITI training program. A Risk Assessment Form must be completed by the individual so that a Risk Summary can be written by the PACUC office notifying individuals of the personal health risks associated with working with animals.

Please note that the requirements 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.

The PACUC website (www.purdue.edu/animals) provides a wealth of information needed for those working with vertebrate 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
I will be offering the following training workshops with a maximum of 6 participants in each session. (If you have any questions or special requests, please do not hesitate to contact me; 765-494-2521 or dowellc@purdue.edu)

These 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 all other workshops; unless participant has had previous training and/or experience in this area. A minimum of 3 days notice is requested for cancellation.

**Workshops are filled on a first-come, first-serve basis!** Workshops are free to personnel tied to Purdue protocols, Purdue staff/faculty. You are encouraged to participate in workshops that are directly related to techniques in your protocol.

**** Location for the RODENT workshops – Meet in AHF 1155 ****

PACUC and the Lab. Animal Program asks that you please note: beginning May 1, 2017, any student that comes for training and is not able to clearly communicate what species they will be working with and what procedures they need to learn will be turned away that day and asked to reschedule at a later point, when they do have a full understanding of their involvement in the animal activity.

We would also like to ask that you check the campus map if you are unfamiliar with the AHF location. Students who arrive more than a few minutes late (without prior notification) WILL BE ASKED to reschedule.

Please visit, [http://www.purdue.edu/research/research-compliance/regulatory/care-use-of-animals/workshops-events.php](http://www.purdue.edu/research/research-compliance/regulatory/care-use-of-animals/workshops-events.php) and select areas of training required per your protocol and register through the "Sign Up" link. (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.)

**Basics of Rodent Handling, Restraint, and Normal Behavior (Rat & Mouse)**

- 8/25/17 – Friday 8:30 – 10:30am
- 8/29/17 – Tuesday 8:30 – 10:30am
- 9/1/17 – Friday 1:30 – 3:30pm
- 9/11/17 – Monday 1:30 – 3:30pm
- 9/20/17 – Wednesday 8:30 – 10:30am
- 10/25/17 – Wednesday 1:30 – 3:30pm
- 11/16/17 – Thursday 8:30 – 10:30am
- 11/27/17 – Monday 1:30 – 3:30pm

**Injections in the rat and mouse; ID, IM, SC, IP**

- 8/25/17 - Friday 1:30 – 3:30pm
- 9/5/17 – Tuesday 8:30 – 10:30am
- 9/12/17 - Tuesday 1:30 – 3:30pm
- 9/22/17 – Friday 8:30 – 10:30am
<table>
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<tr>
<th>Date</th>
<th>Time</th>
<th>Course Description</th>
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<tr>
<td>10/25/17</td>
<td>8:30 – 10:30am</td>
<td>Blood Collection in the Rat and Mouse</td>
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<tr>
<td>11/16/17</td>
<td>1:30 – 3:30pm</td>
<td>Tail Vein Injection in the Lab. Rat and Mouse</td>
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<td>12/4/17</td>
<td>1:30 – 3:30pm</td>
<td>Rodent Oral Gavage</td>
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<td>8/30/17</td>
<td>8:30 – 10:30am</td>
<td>Isoflurane Gas Anesthesia</td>
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<td>9/19/17</td>
<td>1:30 – 3:30pm</td>
<td>Wound Closure and Suturing Basics</td>
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<tr>
<td>10/12/17</td>
<td>8:30 – 10:30am</td>
<td>Orbital Sinus Injection – (As an alternative to tail vein injection)</td>
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<td>11/6/17</td>
<td>1:30 – 3:30pm</td>
<td>Aseptic Technique / Surgical Preparation</td>
</tr>
<tr>
<td>11/28/17</td>
<td>8:30 – 10:30am</td>
<td>Euthanasia / Basic Necropsy / Organ Identification</td>
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**Combined Techniques** *

*Prior experience/training in majority of courses is required*

This workshop is designed to incorporate all that you have learned regarding rodent handling, injections, blood collection, anesthesia, surgical prep, wound closure and euthanasia. You should come prepared to practice specific techniques that you will be using in your research.

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<tr>
<td>10/5/17</td>
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<tr>
<td>11/30/17</td>
<td>9:00am – 11:00am</td>
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**OTE:** Please, please do not take a spot in any class that you do not need, or if you are unsure that you will be available to attend! Class sizes are extremely limited.

Please include your supervisor’s name, email, and phone number in the comments section when you sign up. If you do not include this information your appointment may be cancelled.
Revised PACUC policy

Default Social and Environmental Enrichment Program for Research and Teaching Animals

Revisions have been made to the policy for enrichment and social housing for Purdue’s research and teaching animals. The revised policy now includes exceptions to social housing which do not require PACUC approval. Cages of singly housed animals that fall under the exceptions not requiring PACUC approval will need to be labeled as such. The facilities will be providing those labels to the PI groups. Other exceptions to default social housing must be granted via the usual PACUC review and approval process. The revised policy follows.

PACUC Policy

Default Social and Environmental Enrichment Program for Research and Teaching Animals

The purpose of environmental enrichment is to provide animals the opportunity to express basic behavior needs, promote species-typical, non-injurious behavior and promote physical and mental health thus enhancing animal welfare. The environmental enrichment provided should be biologically relevant (e.g., hiding, socializing, searching) so that it does not lose its enriching value over time. For social species such as mice and rats, social housing should be the default housing arrangement when possible.

Exceptions to Social Housing/Enrichment Policy Requiring PACUC Protocol Approval:

Instances will arise when social grouping or enrichment items may be inappropriate for the scientific goals of the study. If an investigator believes that social grouping or providing cage enrichment would have a negative impact on the study or be detrimental to their animals, an exception to the policy for such social housing or addition of enrichment items may be granted by the PACUC at the time of protocol review. For AAALAC’s position statement on Social Grouping, see the last page of this document.

 Exceptions to Social Housing Not Requiring PACUC Protocol Approval:

Social animals may need to be singly housed for a variety of reasons. The following include general categories of exceptions to social housing not requiring PACUC protocol approval. Examples of such situations include:

· separation of aggressive or incompatible conspecifics—for example: male rabbits. However, females that demonstrate to be aggressive or socially incompatible will be housed individually.
· individual housing due to attrition of cage/pen mates or uneven number of animals
· animals used for PACUC approved rodent breeding and is either a breeder male between mating, a pregnant female that is near delivery, or a juvenile that has just been weaned and is the sole male or female in the litter.
· individual housing in preparation for pending parturition ...continued on p. 7
quarantine prior to entering or reentering a facility
- animals housed singly for short term recovery post-operatively; single housing must be for the minimum amount of time post-operatively necessary for recovery and/or healing as determined by the PI in consultation with LAP veterinarians
- individual housing when an animal is considered a danger to other animals, to itself or personnel

For farm animal / agricultural species housed in an agricultural setting, the Guide for the Care and Use of Agricultural Animals in Research and Teaching, Chapter 4, Environmental Enrichment, should be followed.

Clinical reasons: LAP veterinary staff may require individual housing of animals when it is for medical concerns. In such cases, PACUC approval is not required. The responsible veterinarian will record the period of single housing and the frequency of re-evaluation in the animal’s medical record, will monitor the animal as noted and re-house the animal when the clinical concern is resolved. These cases will be reported to the PACUC at the discretion of the Attending Veterinarian

If an animal falls under one of these exceptions, a sticker or a tag will be placed on the cage card indicating the corresponding exception

Social Group Housing & Cage Enrichment

Mice: Mice should be group-housed in breeding or compatible unisex groups on contact bedding with nesting material. Unfamiliar males or animals separated due to fighting should be housed singly on contact bedding with nesting material. It is not required that mice housed on Tek-Fresh bedding have nesting material provided. A portion of the nesting material will be transferred to the clean cage with the animals at time of cage change, with additional nesting material provided as necessary. Examples of nesting material: nestlets; crinkle paper, tissues, paper towel.

Rats: Rats should be socially housed on contact bedding. When single housing is required by the investigator, enhanced environmental enrichment meeting the needs of retreat space must be provided. For rats, a PVC pipe section of appropriate diameter or other equivalent shelter or retreat equivalent will suffice. For wire housing, see the PACUC Policy on Wire Bottom Caging for Rodents. When housed on wire, enrichment should be provided. One recommendation is the provision of a small nylabone chew toy if it would not interfere with the research being conducted.

Guinea Pigs: Guinea pigs should be kept in social groups and provided shelter space sufficient to contain all of the pen inhabitants simultaneously. The use of PVC tubes for group housed guinea pigs is not recommended as crowding of animals into such tubes could constrict animals’ movements/respirations.

Rabbits: Animals >4 months of age should be housed singly with the ability for visual, auditory and olfactory association with conspecifics. Rabbits housed singly must be provided a toy or other manipulanda on the outside/inside of the cage on a regular basis to allow for exploratory behavior.

Chinchillas: Animals housed singly should have the ability for visual, auditory and olfactory association with conspecifics. Chinchillas housed singly must be provided a retreat structure and toy or other manipulanda on the outside/inside of the cage on a regular basis to allow for exploratory behavior. Sand baths should also be provided as well as and food treats if the latter would not interfere with the research being conducted.

...continued on p. 8
**Dogs:** Canines may be housed in compatible pairs or small groups. Dogs housed individually must be within sight of other dogs. Each dog should have access to at least one toy when in their home enclosure. These toys should be rotated to maintain interest. If dogs cannot be compatibly housed continuously, intermittent social activity of 30 minutes per day, 5 days per week is allowable, e.g., during pen sanitation or walking. Dogs should be given human interaction including petting, soothing speech, playing, and grooming.

**Cats:** Behaviorally compatible cats should be socially housed. Group enclosures must have sufficient resting places off the floor to accommodate every cat. Scratching posts and visual barriers should be considered for group housed cats. Multiple litter boxes, feed and water bowls should be distributed around the enclosure with at least one station for every two to three cats. If a cat is to be housed singly because of social incompatibility or is post-operative, it should be given a hiding place and opportunities for increased human interaction. Cats housed singly for scientific purposes should be within sight and sound of other cats and given toys, other manipulanda and opportunities for increased human interaction.

**Sheep:** Sheep should be socially housed in compatible pairs or small groups, unless exempted for experimental reasons by the PACUC, or for health or behavioral reasons by the attending veterinarian. If sheep must be individually housed, position them in such a way that they can see at least one conspecific, because visual isolation is stressful for sheep. Stressful research manipulations (e.g., venipuncture, drug application) should be accomplished within the presence of a familiar conspecific. Where there is likelihood of a single sheep remaining on census at a single site, experimental plans should account for the timely use of the remaining animal. Sheep should be provided a diet high in roughage, to allow species typical feeding and rumination, and to reduce the likelihood of stereotyped behaviors.

**Swine:** Behaviorally compatible pigs should be socially housed including, if necessary, combining pigs of compatible size and disposition to meet this need. Substrates should be provided to enable rooting behavior. Examples of such substrates could include plastic or bowling balls loose on the cage floor. Swine should be provided manipulanda suspended from the pen side, such as hanging ropes, chains, tires or rubber tubes, for play and exploration.

**Songbirds:** Songbirds should be housed in socially compatible groups with perches, feeders, watering devices, and cuttlebone as appropriate for the species.

**African Clawed Frogs:** Frogs should be housed in tanks with a population density not exceeding one per 2 liters tank water volume and as otherwise stipulated by facility SOP. With respect to the latter, water treatment, circulation and quality may stipulate that greater volumes be accorded per head. For animals housed with direct exposure to room light, refuges or retreats should be provided in the form of pipes, flower pots, or submerged plastic boxes unless the environment is already sufficiently dark.

**Pigeons:** Individually caged birds should have ability for visual, auditory and olfactory contact to allow for some social interaction with conspecifics. Behavioral training and associated staff interaction is encouraged.

**Other Enrichment Devices:** The following is a list of other devices that have been successfully used on various species.

**Mice:** Chew sticks/blocks, paper rolls, paper shacks, PVC tubes, Nylabones®, corn husks, plastic pipette boxes, wheels, and critter cubes.

**Rats:** Paper rolls, Nylabones®, PVC tubes, plastic huts.

**Guinea Pigs:** Paper rolls, corn husks, PVC tubes, cardboard boxes, Ferret Balls, bedding bags, Jingle Balls®, “houses” made of old cages.

**Rabbits:** Retreats/hiding shelters, baby rattles/keys, corn husks, Bunny Blocks®, Jingle Ball®.

**Frogs:** Ramps, perches, PVC tubes, “J” feeders, floating leaves (made from trash bags).

....continued on p. 9
Fish: PVC tubes, floating leaves.
Chickens: Perches, red marbles in food, red marbles in water, mirrors, plastic chain links.
Chicks: Astro™ turf covered with feed.
Birds: Perches

**AAALAC Position Statement on Social Housing**
The Guide states that single housing of social species should be the exception. Social housing will be considered by AAALAC International as the default method of housing unless otherwise justified based on social incompatibility resulting from inappropriate behavior, veterinary concerns regarding animal well-being, or scientific necessity approved by the IACUC (or comparable oversight body). When necessary, single housing of social animals should be limited to the minimum period necessary and, where possible, visual, auditory, olfactory and, depending on the species, protected tactile contact with compatible conspecifics should be provided. In the absence of other animals, additional enrichment should be offered, such as safe and positive interaction with the animal care staff, as appropriate to the species of concern; periodic release into larger enclosures; supplemental enrichment items; and/or the addition of a companion animal in the room or housing area. The institution’s policy and exceptions for single housing should be reviewed on a regular basis and approved by the IACUC (or comparable oversight body) and/or veterinarian.

**References**

A. Guide for the Care and use of Laboratory Animals-8th edition, NRC
B. [http://www.aaalac.org/accreditation/positionstatements.cfm#social](http://www.aaalac.org/accreditation/positionstatements.cfm#social)
C. Guide for the Care and Use of Agricultural Animals in Research and Teaching; 3rd edition, Federation of Animal Science Societies, Savoy, IL. 2010
D. Cornell University, IACUC Policy # 550: Exemptions to Social Housing of Animals
PURDUE ANIMAL CARE AND USE COMMITTEE
Administrative staff

Phone: 765/494-9163
Fax: 765/496-2415

Lisa Snider, PACUC Administrator: ldsnider@purdue.edu
Lori Bugher, PACUC Admin Assistant: lbugher@purdue.edu
Carol Oteham, Occupational Health and Safety Specialist: coteham@purdue.edu
Deana Galema, Animal Exposure Health & Safety Secretary, PACUC Secretary: dgalema@purdue.edu

2017 PACUC MEETINGS

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<td>October 27</td>
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<td>December 20</td>
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