

University of Washington  
September 19, 2019 IACUC Meeting Minutes

Members Present:	AB	DM	MK
	AS	JM	SJH
	*CB	JS	TH (Remote)
	CG	KG	ML
	CH	KS	

Members Absent:	FRR	JE	JPVH
	JB	SL	SRH

\*CB alternate for JE.

### Opening Business

- The IACUC Chair called the meeting to order at 2:30 pm.

### Confirmation of a Quorum and Announcement

- Quorum was confirmed by KC.
  - The Chair announced that OAW's public-facing website now posts all UW USDA inspection reports, IACUC meeting minutes and Semi-Annual Reports
- The Chair welcomed new member David to the IACUC

### Protocol Review

- TR201800101 (4293-02) – **JFI**
  - The goal of this group's research is to better understand how the populations of neurons in the visual cortex process and represent information about the visual world. Additionally, they aim to develop and refine novel methods to record signals from many neurons simultaneously. 8 macaques are requested for this project.  
All animals will undergo a terminal recording session which could last up to 7 days, during which the animal will be maintained under general anesthesia and euthanized at the end. In order to prevent eye movement, animals will be administered an IV infusion of a paralytic. The paralytic will not be administered until all initial surgical procedures are completed. The only survival procedures that animals may experience are a structural MRI, and an optional survival surgery for virus injection into the cortex. This surgery would be done at least 7 days prior to the terminal recording session. They aim to image a large amount of cortex in a single animal so that the block of brain can be used for anatomic reconstruction. Due to the number of different visual stimuli that need to be presented, and the number of times each stimulus needs to be repeated, it can take on the order of 1 to 4 hours to characterize a single neuron or single group of neurons. Thus, they request to continue the recording session for up to 7 days as long as the animal remains stable and in good condition. As noted in the protocol, any indication that the animal is unhealthy or that the anesthesia regime is not stable will result in euthanasia.
  - *The IACUC discussed with the PI what they have seen when they have done these experiments in the past, how these recording sessions will be done, the vet presence during the sessions, how they determined their sample size, what additional measures are taken while the animal is paralyzed to ensure proper care, clinical signs used to monitor potential pain and/or distress both before and after paralysis, training that is done to prepare for the recording*

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*sessions, and precautionary measures that are taken, including during the night shift, in the event someone is tired.*

- *After the PI and lab members left, the IACUC then further discussed anesthesia certifications. The PI is currently the only person on the protocol certified in anesthesia, so any time they are not present, a WaNPRC anesthetist would be present..*

Motion was made and seconded: to approve the triennial as written.

Discussion: *None*

Vote: Approved with 14 members voting in favor, 0 against, 0 abstentions.

*As these studies have not been done here recently, the IACUC would like to get an update from the group after the first experiment is completed.*

### **Approval of the IACUC Meeting Minutes**

- The IACUC Chair called for the approval of the August 15<sup>th</sup>, 2019 meeting minutes.

Motion was made and seconded: to approve the minutes as written.

Discussion: *None*

Vote: Approved with 13 members voting in favor, 0 against and 1 abstention.

### **Benefit Story**

This month's benefit story is about using research to save penguins. UW penguin researcher, Dr. Dee Boersma, and fellow members of the international Penguin Specialist Group recently held a workshop to identify key issues for penguin conservation and research worldwide. The group used a rigorous methodological approach to generate statistically justified priorities for action.

For example, using data collected by the Boersma team, among others, the Group determined that 10 of 18 known penguin species are experiencing serious population decline. Continued population monitoring and improved understanding of changing environmental conditions are critical for reversing this decline. Better regulation of local fisheries, especially when food resources are low, and tourism restrictions are two mechanisms that could be used to achieve this goal.

The Boersma group has made important contributions to our knowledge about penguin populations using sophisticated radio-frequency tag technology, as well as good old-fashioned observation to track individual penguins over time. Being able to use solid science to back up recommendations for conservation efforts is crucial for gaining the support of politicians and other legislators who can make meaningful changes to ensure the survival of penguins around the world.

Boersma PD, Borboroglu PG, Gownaris NJ, Bost CA, Chiaradia A, Ellis S, Schneider T, Seddon PJ, Simeone A, Trathan PN, Waller LJ & Wienecke B. Applying science to pressing conservation needs for penguins. *Conservation Biology* (2019).

### **Attending Veterinarian's/OAW Director's Report - KS**

- IACUC metrics- see meeting documents
- No HBAS meeting this month

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- Invertebrate subcommittee will report out later in this meeting
- Updates to the training program:
  - AUTS plans to pilot at one location a new facility orientation training which will be a combination of new on-line lessons with a revised facility walk-through. As part of the pilot, we will assess whether this new training leads to better retention of information.
  - We have also developed 2 new on-line lessons: Checking cages for animals, checking for food and water. These lessons could be used as a general lesson for everyone or refresher training as part of a corrective action plan.
- Facility issues: No items to report
- Protocol Monitoring:
  - Twenty-one total protocols. Of the protocols, 13 involve surgery, two restraint (and sx), one conscious restraint, 1 tumor modeling, 4 miscellaneous (tape skirt, infection, water quality). Seven are inactive right now.
- Notification to the committee:
  - A new USDA covered species, 13-lined ground squirrels, will be arriving soon and housed for up to 2 weeks. They will be euthanized for tissue collection and the tissue immediately used for ex vivo analysis. The goal of this work is to determine whether hibernating animals (such as these squirrels) exhibit increased protection to cardiac ischemia reperfusion injury during the fall/winter seasons when they usually go into hibernation as compared to the non-hibernating rodents (such as rats). The results will advance understanding of novel protective mechanisms in the heart against acute ischemia reperfusion stress.
- Adverse Events:
  - Follow up on letter of reprimand on protocol 4450-01:
    - PI spoke with the lab staff who were involved with this incident, and they reviewed the breeding/weaning protocol. The pups were originally alone because the researcher was looking for a suitable foster mother for them, as they were valuable animals. However, they now understand that this was not the correct course of action, and that the pups should have been euthanized since a foster mother could not be immediately found. The PI also spoke with the entire lab about making sure that all aspects of the protocol are followed. Since the lab has only been at UW for less than a year, the lab feels like they are still learning some of the standard operating procedures. They will make every effort going forward to ensure all animal work follows standard procedures outlined by IACUC and the PI requests that the vet staff and/or the IACUC reach out to him directly if there are other concerns in the future. AV also met with PI to discuss the path forward and was satisfied with the PI's response to concerns.
  - Follow up on DCM letter of concern
    - Training is complete and the process implemented for "animal only" transport carts to be used by DCM personnel when moving animals from the 6th floor and T-wing.

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Additional signage has been posted and training is complete regarding how to abort autoclave loads. Training has also been completed regarding checking carts and removing any extra drapes prior to a cart being placed in an autoclave. As of Sept. 17th, DCM expects that animals destined for the T-wing will be delivered directly there. This incident is a reminder of the dangers present in cage wash areas. DCM has heightened their internal inspections of those areas by management and asks the IACUC to partner with them to make site visits of such areas thorough to ensure safe practices are consistently used in these areas.

- Non-compliance:
  - Protocol non-compliance on 3328-07. As part of an IACUC-mandated pilot study, researchers conducted an initial experiment to induce traumatic brain injury in young ferrets by CHIMERA (Closed-Head Injury Model of Engineered Rotational Acceleration). In this initial experiment, 10 ferrets were given 3 successive impacts to the skull at 24 hour intervals. The group increased the impact energy between exposures rather than keeping the impact energy constant at each exposure as stated in the protocol. There is some flexibility in the protocol to allow a change the number of exposures (up to 5) and the timing of exposures (between 24 hrs. to up to 2 weeks between them) depending on behavioral signs noted after each exposure but not to increase the impact energy between exposures. The AV, vet monitor and OAW liaison met with the group to discuss this initial experiment and determined that a protocol non-compliance occurred. There were no apparent animal welfare issues associated with the way the experiment was conducted and the group obtained useful behavioral data. 9 out of 10 ferrets made it to the experimental endpoint 7 days after the last impact. 1 was euthanized due to prolonged anesthesia recovery after the 3<sup>rd</sup> exposure. **Corrective action:** The researcher involved took responsibility for not understanding what was approved for these pilot experiments. The group has no immediately plans to do any additional experiments until they get histopathology and MRI results for the initial experiment. The group must meet with the AV during the planning phase of any additional experiments on this pilot study as the protocol must be amended before that occurs. The AV will be directly involved in vet monitoring on these experiments. Data from these pilot experiments must be presented to the IACUC prior to amending the protocol to combine this CHIMERA procedure with their neonatal injury model.

**Reported to OLAW and USDA.**

*The IACUC discussed the reasoning behind why the group did not follow what was written in the protocol, and how this protocol non-compliance was discovered. The group has worked with other CHIMERA users on the use of this equipment to generate traumatic brain injury and provided some references to the Attending Veterinarian.*

**Member left at 3:21 PM**  
**Member returned at 3:22 PM**

Motion was made and seconded: to send a letter of counsel and request that the group be present at the next meeting.

Discussion: *The IACUC discussed the condition of the animals during the study. The group is waiting on histopathology to see the actual trauma to the brain. The AV will be involved in these studies going forward and the group will give the IACUC an update prior to moving forward.*

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*If the group wants to change their experimental protocol to what they did during this first study, then they will have to submit an amendment to their protocol.*

Vote: Approved with 14 members voting in favor, 0 against and 0 abstentions.

- WaNPRC ABC Supervisory Veterinarian's Report - **TH**
  - Facilities items: No items to report.
  - Adverse events: No adverse events to report.

### Other Business

- Exemption for Innovative Housing – **CH**
  - *Propose to make a pair of L shaped cages from group 4 cages. In these L's, the floor space is twice the size of the group 4 cages, however, the height of the cage does not meet requirements. The behavioral group has found that increased vertical space is better than increased horizontal space.*

Motion was made and seconded: to approve the exemption as written.

Discussion: None

Vote: Approved with 14 members voting in favor, 0 against and 0 abstentions.

- Analgesic Formularies – **ML**
  - *Update for a current DCM formulary. There are 2 versions of the formulary, one with a newer version of a drug that is coming out, but not yet available and the other contains the current drug used.*

Motion was made and seconded: to approve the both versions of the formularies as written.

Discussion: None

Vote: Approved with 14 members voting in favor, 0 against and 0 abstentions.

- Invertebrate Committee Update – **LI and subcommittee members**
  - At the IACUC's request, a subcommittee has made preliminary investigations regarding the inclusion of invertebrate species in the UW animal care and use program as overseen by the Committee. The subcommittee reports that:
    - For some invertebrate species, there is ample, credible scientific evidence of behaviors and reactions to apparent pain or distress like that in vertebrates. This includes at least certain groups and genera of Cephalopoda;
    - Some jurisdictions, including Canada and the European Union, have brought cephalopods under the purview of Institutional Animal Care and Use Committees (IACUC) or their equivalent;
    - AAALAC International, which accredits the UW animal care and use program, expects invertebrates to be included and evaluated as part of the program where they are relevant to the unit's mission;
    - Certain UW faculty currently involve cephalopods in their research and teaching and this is expected to continue and even expand.

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- Based on these findings, the subcommittee recommends that the UW IACUC commit to the following:
  - Expect research and teaching involving cephalopods, whether in the field or on campus, to be overseen by the IACUC, including the facilities and procedures for their care and housing. This should occur as soon as possible and no later than January 2020.
  - Work with existing and potential future users of cephalopods at the UW to develop the processes, means and standards for such oversight, including review and approval of animal use protocols as applicable;
  - Share learning with researchers and IACUCs at other institutions that work with cephalopods and other invertebrates;
  - Define, on the basis of science and ethics, which other invertebrates might receive IACUC oversight and why;
  - Work with the UW Institutional Official, other UW officials, and the Faculty Senate to appropriately reflect invertebrates in the Executive Order on Animal Care, the IACUC charter, and other policy statements.
- The IACUC recognizes that its oversight of invertebrates will evolve over time and will continue to work with the faculty and research community to assure animal welfare while furthering the UW's mission of teaching, research and service.

Motion was made and seconded: to adopt this charge and move forward as a committee and institution.

Discussion: *There should be a process in place by January 2020, but this is not a deadline for approval of protocols.*

Vote on the Motion: Approved with 14 members voting in favor, 0 against and 0 abstentions.

- Site Visit Discussion – **KS**

- Perfusions (performed in lab spaces):
  - *The IACUC discussed allowing the option of annual site visits to procedural lab spaces where only perfusion in a non-USDA species is performed as long as they have a clean site visit record. Perfusions are currently classified as terminal surgeries and as a result are inspected every 6 months.*

Motion was made and seconded: to allow the option for annual inspections for labs that use non-USDA species and have terminal perfusions perfusion only in a procedural spaces.

Discussion: *None*

Vote on the Motion: Approved with 14 members voting in favor, 0 against and 0 abstentions.

- Minor findings:
  - *The IACUC discussed what would classify a minor finding as a deficiency or concern or just as a note in order to determine if the lab space would be visited on a semi-annual or annual basis. At this time, it would be at the IACUC inspector's discretion and the IACUC is encouraged to consider this while on site visits.*

**Member left at 4:28 PM**  
**Member returned at 4:29 PM**

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- Pain Categorization in Non-USDA, Non-DoD Covered Species Protocols – **KS**
  - *Currently all protocols have pain categorization just like a USDA species protocol even though it is not regulatory requirement for non-USDA and non-DOD funded studies. The IACUC discussed the necessity for having pain-categorization in protocols using non-USDA animals and are non-DOD funded versus use of another method of identifying and evaluating procedures that involve the potential for unrelieved distress or pain.*
  - Member left at 4:46 PM**
  - *OAW will take a look at how to identify these types of procedures in HoverBoard and recommend how the IACUC could evaluate them and bring that back to the IACUC to discuss this further.*

**Closing Business:**

The Meeting was brought to a close at 4:55 pm. The floor was opened to public comment.