

University of Washington
January 16, 2020 IACUC Meeting Minutes

Members Present: AB JPVH MK
 CH JS ML
 DM KG SL
 FRR KS SRH
 JM MB

Members Absent: CM GS JB SJH

Opening Business

- The IACUC Chair called the meeting to order at 2:31 pm.

Confirmation of a Quorum and Announcement

- Quorum was confirmed by KC.

IACUC Training

- Octopus Presentation – NC
 - *The Gire group presented on octopus physiology, care, handling, enrichment, and welfare, and talked about their research.*

Protocol Review

- PROTO201900114 (4356-02) – EC

This is the first cephalod protocol at UW, following the IACUC's September 2019 vote to cover them. The OAW liaison presented the scientific aim and goals of this study that employs behavioral observation as well as an arm foraging task.

This protocol explores the mechanisms through which the distributed nervous system of the octopus integrates and processes information during sensory-guided behavior.

The protocol involves both the Pacific Red Octopus and the giant Pacific octopus and employs behavioral observation, as well as an arm foraging task.

- Standard Procedure Review – AS

Biopsy, Peripheral Lymph Node, Inguinal or Axillary (NHPs)

Changes: Related anesthesia and analgesia procedures updated to current version; duration of fasting extended (all species except squirrel monkeys), minor updates to procedure description and monitoring plan.

Hair Sample Collection (NHPs)

Changes: Related anesthesia and analgesia procedures updated to current version.

Motion was made and seconded: to approve all of the standard procedures as written.

Discussion: *None*

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

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Approval of the IACUC Meeting Minutes

- The IACUC Chair called for the approval of the October 17, 2019 meeting minutes.
Motion was made and seconded: to approve the minutes as written.
Discussion: *None*
Vote: Approved with 14 members voting in favor, 0 against and 0 abstentions.

Benefit Story

This month's benefit story is a little different from usual, and it involves the development of a new technique for detecting and analyzing ultrasonic vocalizations in mice and rats that allows researchers to gain insight into the emotional state of test animals. The new software uses machine learning, specifically what is referred to as a 'deep artificial neural network', to train computers to automatically detect and classify different subtypes of rodent calls in audio recordings. It's called DeepSqueak. The Neumaier lab scientists that created DeepSqueak study stress and addiction, and they wanted to understand better what their animals were experiencing without putting them through additional tests.

The researchers knew that rodents make ultrasonic vocalizations that are associated with different social and motivational states, and they wanted to be able to identify and analyze different calls made under different conditions. For example, rats chirp at very high frequency when they are being tickled, something they really seem to enjoy. These calls are inaudible to humans, but there are complex patterns hidden within the high-frequency vocalizations that are thought to encode valuable information about the animal's subjective experience. DeepSqueak has identified new ways to classify sound syllables, which the researchers can then link with behavior, so the meaning of different calls can begin to be deciphered.

DeepSqueak improves our understanding of animals' subjective experience by decoding rodent vocalizations. It is a bonus that this information can be collected non-invasively. Among other benefits, identifying different emotional and motivational states associated with drugs of abuse in rats and mice should aid in the development of more effective treatments for addiction in humans.

Coffey, KR, Marx, RG & Neumaier, JF *DeepSqueak: a deep learning-based system for detection and analysis of ultrasonic vocalizations* Neuropsychopharmacology 44: 859-868 (2019)

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

- As the HBAS has completed its objectives, it will become an ad hoc committee. If you have an item you would like to bring to this sub-committee, please reach out to Chair, AV or OAW subcommittee organizer.
- IACUC metrics- see meeting documents
- There was a USDA routine inspection at the AZ site on 1/3/2020 with finding of no non-compliant items identified. Inspection report has been posted on the external public facing website.
- Facility issues:
 - Humidity: With the colder weather, we are seeing some instances of humidity <30% in some facilities. Minimal impacts to animal health have been seen as a result of the lower humidity.

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- There was an internet outage at the SLU campus starting on 1/10/20 afternoon until 1/12/20 early morning. This resulted in the environmental monitoring systems (not the environmental controls) at the SLU vivaria being off-line with no impacts to animal welfare. The zebrafish facility lighting system was also off-line as a result of this outage so on Saturday (1/11/20), personnel set up halogen lights on a timer to provide lighting there.
- I-wing Primate Center areas: On 1/14/20 around 1:30 am, high temperature alarms occurred with temperatures rising to >84°F. The system was fixed by mid-morning that day and all rooms were within normal temperatures by no later than 3 pm. No impacts to animal health were noted.
- Protocol Monitoring:
 - Twenty-two 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. Primate and pig surgery models are either going well or there is no current activity. Not much activity on the rodent protocols that are under monitoring.
- Adverse Events:
 - K-wing vivarium: 2 cages each containing five adult experimentally naïve mice were reported, with 2 dead in each cage and the rest hunched. It was noted by the animal technician that the plastic hydropac lixit stem in both cages had been chewed off, and therefore water was not accessible to the mice. Gel and new hydropacs were provided at that time and the remaining mice recovered. The cages had been changed 7 days previously. It is very rare for mice to chew off a hydropac lixit stem.
Reported to OLAW.
- Non-compliance:
 - 4259-04: As approved on this protocol, one gerbil underwent its second embryo transfer procedure after the previous unilateral embryo transfer surgery. Due to the reproductive tract being adhered to a vascularized mass, the transfer on that side was not possible. The incision was closed and an attempt was then made to do the transfer on the opposite side. The embryo transfer was not possible on that side either and the gerbil was euthanized. The protocol allows for a female gerbil to be re-used for a second embryo transfer surgery if the previous surgery was a unilateral procedure and that the second procedure would be on the opposite side. Therefore, the embryo transfer attempt on both sides in the same surgery was a protocol non-compliance. However, there was no animal welfare concern related to this non-compliance. The group was instructed by Vet Services not to repeat surgical attempts that are not approved on their protocol, and reminded to use the Vet Services emergency pager whenever unexpected situations like these come up. In addition, the AV sent an email to the PI about this non-compliance and stated that it is the PI's responsibility to ensure that the protocol is followed as approved by the IACUC.
Reported to OLAW and USDA. Recommend Letter of Counsel.

Motion was made and seconded: to send a letter of counsel to the lab group.

Discussion: *This non-compliance was discovered when the group requested histopathology of the mass.*

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

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- Notification to the IACUC about an action taken:
 - There has been a pattern of behavior where two members of a PI lab group have repeatedly disregarded Primate Center staff directives related to the care and use of animals. The initial issues related to the use of positive reinforcement training and the table top restraint device (TTRD) and over the last 2 years, multiple meetings have taken place between the PI, lab members, IACUC Chair, AV and/or Primate Center management about these issues. In 2019, there were several instances related to these same individuals feeding animals that were due to be sedated or sedating the animals even though they had been fed, which is not in keeping with the Primate Center fasting SOP. These lab members had been told several times by a veterinarian that animals can't be sedated if they have been fed, and were directed to the fasting SOP. Due to the repeated instances of disregard for Primate Center procedures and staff directives, the AV, IACUC Chair and interim Director of the Primate Center determined that allowing these individuals to continue to do animal work could jeopardize animal welfare as well as put the PI research and the entire UW animal care and use program at risk. A meeting with the PI, the lab manager and their HR representative took place to communicate that these two individuals can no longer conduct animal work.

- From Arizona
 - Facilities items: No items to report.
 - Adverse events: No adverse events to report.

Other Business

- Semi-Annual Program Review – **LI**
 - LI did a review of the semi-annual report that is available to the committee for review, asked for final comments and provided a deadline for any minority views.
 - *An IACUC member questioned the designation of 'significant' for the concern related to FHL, where fish were being cared for, but it wasn't clear who was doing it and no care logs were being kept. Also, the animals were collected without the proper permits or a protocol in place. This was found during an IACUC site visit and was labeled as significant by the site visitors. After discussion, the IACUC reached consensus that this is a significant concern.*

Closing Business:

The Meeting was brought to a close at 3:41 pm. The floor was opened to public comment.