

University of Washington
March 15, 2018 IACUC Meeting Minutes

Members Present:	AB (Left @ 4:45)	JE	LJE
	*MB	JFI	ML
	CH	JM	SL
	FRR	JPVH (Left @ 3:51)	TB
	JB	JS	

Members Absent:	AS	CG	JLS
	MS	SH	KL

*MB alternate for AS

Opening Business

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

Confirmation of a Quorum and Announcement

- Quorum was confirmed by JS.

Protocol Review

- PROTO201700252 (4423-01) – **MB**

This amendment is being reviewed by the full committee because it is a study involving death as an endpoint. The Committee needs to assess the need to include coho mortality as the endpoint for this study.

This project is funded by the King County Wastewater Treatment Division.

Definition of FTWs: Floating Treatment Wetlands, which are used to reduced contaminants and nutrients in urban storm water runoff. This project will use FTWs to treat collected stormwater runoff from a local freeway and assess the impact on coho salmon mortality.

Summary of protocol:

This study involves the following procedures:

First, stormwater will be collected from under a freeway. Half of it will be treated with the FTWs, which is a frame containing plant roots hanging with a surface area that allows for the growth of a thick biofilm of algae, fungi, bacteria and other microbes and this biofilm assists with metal and nutrient uptake. The other half will not be treated. The stormwater will be placed in tanks and transported to the Tulalip tribal hatchery.

- 1) Coho will be captured at the Tulalip tribal hatchery pond and placed in clear PVC tubes within a large tank containing either direct storm water (control group) or storm water treated with FTWs (treatment group).
- 2) The coho will remain in the tubes within the tank for up to 24 hr and during this time, they will be videotaped and observed for a 15-min period upon placement and then every 2 hr. for signs of stormwater impacts and survival. At 24 hr, fish will be euthanized by MS-222 followed by severing large vessel (tail vein or gill arch) after euthanasia from buffered MS-222 to ensure death.

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This is based on a study by Spromberg, et al. (2015) that found substantial coho mortality after exposure to storm water after exposure to untreated stormwater when researching the role of toxic run-off on the high rates of premature death of spawning populations. After testing the same stormwater runoff before and after exposure to a bio-media on pre-spawn coho, they found that it was no longer lethal post bio-retention. In Phase I of this project, this group would like to determine whether the use of Floating Treatment Wetlands (FTWs) can provide similar results when treating stormwater

Floating Treatment Wetlands (FTWs) planted with emergent macrophytes provide a novel opportunity for treating urban storm water that has historically entered urban streams and lakes untreated, thereby protecting sensitive species such as Coho salmon. This study will investigate the effect of FTWs on the water quality of storm water and Coho salmon mortality.

The Spromberg, et al. (2015) study found substantial coho mortality after exposure to untreated stormwater when researching the role of toxic run-off on the high rates of premature death of spawning populations. After testing the same stormwater runoff before and after exposure to a bio-media on pre-spawn coho, they found that it was no longer lethal post bio-retention. In Phase I of this project, we would like to determine whether the use of Floating Treatment Wetlands (FTWs) can provide similar results when treating stormwater. FTW's consist of mats of differing material floating on the water surface with emergent species planted within and plant roots below the surface covered with biofilm. The plant roots and the associated biofilm network have been found to be successful at removing or significantly reducing metals (copper, zinc, iron, nickel, manganese, cadmium and lead) and nutrients, total suspended solids, E coli, chemical and biological oxygen demand and algae growth.

EXTRA INFORMATION

Researchers have found that the primary cause of toxicity for fresh water species was dissolved copper and zinc found in highway runoff. Copper and zinc was primarily taken up by the roots within FTWs ranging from 40 to 80%. Each system of plant roots hanging beneath the floating mat provides an extensive surface area that allows for the growth of a thick biofilm of algae, fungi, bacteria and other microbes and this biofilm assist with metal and nutrient uptake.

Determine if the FTW assist with ameliorating stormwater impacts on coho similar to the bio-retention media in the Spromberg, et al, 2015, study. Aggressive wetland plants will be planted within a Biomatrix FTW in the spring of the year before the fall testing period to obtain more mature root systems.

Adult pre-spawn coho will be obtained from a WDFW or tribal hatchery just prior to reaching the hatchery fish ladder. Coho will be submerged in a polyethylene tank with a known flow over each fish. Fish will be exposed for 48 hours similar to the exposure used by Spromberg et al., (2015).

There are numerous studies that have proven that FTW's have decrease mortality and result in cleaner water.

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Animals are observed throughout the entire study. Since it is not known what is causing mortality in the water, there currently is no other way to tell if they die because of the storm water if they are removed and euthanized before death.

First step is to determine what is killing them and based on what is observed, then the group can move to using a surrogate endpoint.

In this situation, run off collection will be unique with each collection. Won't know what is in each unique sample so it will be difficult to determine exactly what is killing the fish. There is a lot of variability in sample contents.

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

Discussion: None

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

- PROTO201600014 (4266-02) – **LJE**
 - Category E Protocol using Nonhuman Primates 4266-02: Influenza DNA vaccine : This protocol was brought to the HBC last month and concerns were raised regarding how the WaNPRC vets were going to be able to effectively navigate the investigator's request to withhold medications or interventions, which would then place the monkeys on this study in Category E –(Painful procedures without pain relieving drugs - Animals used where pain and distress to the animal is present and for which the use of appropriate anesthetic, analgesic, or tranquilizer drugs would adversely affect the procedure results, or interpretation of the results.) Prior to the meeting today, the IACUC chair indicated that she would consult with the PI and WaNPRC vet to confirm that they could work together to determine when analgesics will be given to animals with symptoms of influenza infection.
 - *No motion made on this item*

- AMEND201800354 (4266-04) – **JFI**
 - **Background:** This group is working to develop a novel HIV vaccine that, when given in combination with antiretroviral therapy, could result in a functional cure for HIV. The experiment relevant to this amendment seeks to determine if administration of an anti-PD1 monoclonal antibody (mAB) will improve the immune response and effectiveness of a therapeutic DNA vaccination.

Requested Change & Reason for FCR: The group has been having trouble acquiring the rhesus monoclonal antibody that is currently approved in their protocol, and is requesting the option to instead use a humanized antibody. They don't expect any difference in biological effect. The animals are currently on study, and they plan to schedule this next phase of the study within the next few weeks.

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

Discussion: None

Vote: Approved with 14 members voting in favor.

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• PROTO201600817 (4259-03) – **LJE**

- Housing Restrictions for NHP: The Curnow group has been attempting to develop NHP embryo and stem cell resources and investigate methodology for the efficient production of embryonic stem cell (ESC) chimeric *Macaca fascicularis* infants. ESC chimeras are individuals comprised of two genetically distinct cell populations, generated through the combination of undifferentiated ESCs with cells of a preimplantation embryo. This technique has been extensively utilized for gene targeting studies and cell-based transplant therapy in the mouse but to date remains untested in the NHP. If this technique is successful the group has a goal of creating, for the first time, in-vitro and in-vivo *Macaca fascicularis* models of Fragile X and associated disorders.

The protocol is approved for 32 adult female *Macaca fascicularis*. The macaques undergo ovarian stimulation protocol followed by a laparotomy to retrieve the oocytes. Macaques on study will undergo a “donor cycle” 3 times. The macaques will be monitored via noninvasive urine collection to assess ovulation. Blood sampling for hormones is also required and the protocol states that the macaques will be trained to present a limb for conscious blood draws. The “embryo transfer/recipient cycle” may occur up to 13 times each year a macaque is on study.

Purpose of IACUC discussion: To discuss the scientific rationale used to justify a housing exception for the macaques used on protocol 4259-03: Reproductive Biology and Stem Cell Program - ESC. The IACUC has a responsibility to determine whether the possible benefits to society and the scientific community outweigh the harm to the adult female macaques who are individually housed on this study as it is currently approved.

“The Institute for Laboratory Animal Research (ILAR) emphasizes that “social interactions are considered to be one of the most important factors influencing the psychological wellbeing of nonhuman primates. Knowing that most primates benefit from social interactions, it should be obvious that they can be harmed by a lack of social interaction [emphasis added].” Louis DiVincenti, Jeffrey D Wyatt 2011 Pair Housing of Macaques in Research Facilities: A Science-Based Review of Benefits and Risks J Am Assoc Lab Anim Sci. 50(6): 856– 863.

- *Studies rarely compare directly to each other and often they focus on just one desired outcome. Are there areas where procedures can be re-thought and changed to address the 4 Cs?*

Grooming contact is not considered isolation. In some facilities it is minimal, but here there is plenty of touching and ability to groom.

For logistical reasons they have to be separated for the urine collected, and for surgery recovery. It would be more stable, from a veterinary standpoint, to leave the animals at grooming contact. It may be better to be stable than to keep opening and separating them.

Protective contact is viewed by the national guidelines as the equivalent as single housing. It is important for a primate to be in full physical contact for their wellbeing. This will be better for the animals and better for the science.

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It seems there is no definitive proof of how pair housing exactly effects reproductive success so if there is any effect on reproductive success, it would be good to err on the side of caution and assume that it is.

There has been little success in getting the animals pregnant so they are surgically implanting in the last 4 animals. Previously, they were not surgically implanted. Once pregnant, the animals will remain in grooming contact because introductions do not occur while dams are pregnant due to it being very stressful.

Pregnancy will result in funding, no pregnancy will most likely result in a loss of funding.

Motion was made and seconded: to leave protocol as is.

Discussion: None

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

- AMEND201800226 (4316-01) – Repair Surgery – **JFI**

This amendment is being reviewed by the full committee in accordance with the IACUC Policy “Neuroscience Studies in Non-Human Primates.”

Background: The objective of this research is to characterize neural signals that support memory formation. This will be accomplished using multi-electrode recording techniques, lesion techniques, pharmacology and neural stimulation in monkeys trained to perform a variety of memory tasks.

Request: The group is requesting one repair surgery for animal A16226, an 8 year old female rhesus macaque. The group reports that she is highly trained on multiple complex computer tasks that have been learned over the span of several years making her extremely valuable and difficult to replace. This animal received her first surgery on the protocol on 11/1/17 to implant a headpost, followed by implantation of 2 recording chambers on 1/23/18. Her approved repair surgery was used on 2/13/18 to fix a visual obstruction caused by skin that was pushed forward over her eyes during the recording chamber implantation. They are requesting one new repair surgery to have banked in case of future need.

Current Hardware: A headpost and 2 recording chambers

Clinical History: Arrived in 2016 with patchy alopecia, which has persisted. She was put on antibiotics in February for a possible chamber infection, and was witnessed rubbing her head, but her incisions have healed well and she has been bright alert and responsive with no neurologic abnormalities. A swab culture was repeated in late February and showed no growth.

Behavioral Report: This animal is currently singly-housed due to incapability but BMS will continue to search for a potential partner. This animal engages in infrequent over-grooming and has minor alopecia. BMS has recommended standard environmental enrichment (EE) 7 days a week, extra enrichment 3 days per week, as well as TV enrichment and audio enrichment.

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

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Discussion: *None*

Vote: Approved with 14 members voting in favor.

- 4221-01 – Repair Surgery – **JFI**

This amendment is being reviewed by the full committee in accordance with the IACUC Policy “Neuroscience Studies in Non-Human Primates.”

Background: The objective of this research is to define neural mechanisms that are involved in converting visual and vestibular sensory signals into commands for eye movements. The group uses rhesus or pigtail macaques for their work because they exhibit the same set of eye movements as humans. In order to define the contribution of a given brain region to eye movements, the group records from neurons in that region during a specific eye movement.

Request: The group is requesting two repair surgery for animal A13279, a seven year old male rhesus macaque. The group reports that this animal, who has had recording hardware in place since 2014, has contributed data for several publications and is one of their best animals in terms of behavior and track consistency. The animal received his first surgery on the protocol in September 2014 to implant 3 recording chambers and a head post. In October 2014 he had eye coils implanted in both eyes. His first repair surgery was used in December 2014 to repair his right eye coil, and another clinical surgery was performed in August 2016 to remove his right eye coil. They are requesting 2 repair surgeries – one to re-implant the right eye coil, and the second to have banked.

Current Hardware: 3 recording chambers, head post, eye coil in left eye

Clinical History: He had a seizure event in January of this year, after a routine chamber debridement procedure. His record notes that it was possibly aminoglycoside induced. It responded to diazepam and the animal has shown no further seizure activity. He also has a history of a chronic draining lesion on his back that seems to heal with treatment and then start draining again a year or so later. But he has been bright alert and responsive, and otherwise normal on physical exam.

Behavioral Report: This animal is currently singly-housed due to incapability but BMS will continue to search for a potential partner. BMS has recommended standard environmental enrichment (EE) 7 days a week, extra enrichment 3 days per week, as well as TV enrichment and audio enrichment.

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

Discussion: *None*

Vote: Approved with 14 members voting in favor.

- 4221-01 – Repair Surgery – **JFI**

This amendment is being reviewed by the full committee in accordance with the IACUC Policy “Neuroscience Studies in Non-Human Primates.”

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Background: The objective of this research is to define neural mechanisms that are involved in converting visual and vestibular sensory signals into commands for eye movements. The group uses rhesus or pigtail macaques for their work because they exhibit the same set of eye movements as humans. In order to define the contribution of a given brain region to eye movements, the group records from neurons in that region during a specific eye movement.

Request: The group is requesting two repair surgery for animal A13280, a seven year old male rhesus macaque. The group reports that this animal, who has had recording hardware in place since 2014, has contributed data for several publications and is one of their best animals in terms of behavior and track consistency. The animal received his first surgery on the protocol in October 2014 to implant 3 recording chambers and a head post. In November 2014 he had eye coils implanted in both eyes. His first repair surgery was used in October 2017 to remove his left eye coil. They are requesting 2 repair surgeries – one to re-implant the left eye coil, and the second to have banked.

Current Hardware: 3 recording chambers, head post, eye coil in right eye

Clinical History: Unremarkable. Appears to be a normal, healthy monkey.

Behavioral Report: This animal is currently singly-housed due to incapability but BMS will continue to search for a potential partner. This animal has minor alopecia. BMS has recommended standard environmental enrichment (EE) 7 days a week, extra enrichment 3 days per week, as well as TV enrichment and audio enrichment.

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

Discussion: *None*

Vote: Approved with 14 members voting in favor.

Approval of the IACUC Meeting Minutes

- The IACUC Chair called for the approval of the February 15th, 2018 meeting minutes.

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

Discussion: *none*

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

Attending Veterinarian's Report – TB

Facility issues:

Humidity: Low humidity reported in our older facilities without humidity control.

Temperature and lights:

3/2/18: At 12:10pm this rodent (mice and rats) facility lost lights to all rooms due to a short in a light switch. The lights were restored by 1:45pm.

3/8/18: 18 of 24 rodent rooms in this centralized facility dropped below normal housing temperatures around 6am. This was due to a routine test of the emergency back-up power and the HVAC system failing to come back on line. The facilities engineering staff had the situation resolved by 7:15am. The lowest temperature was approximately 63 degrees.

Occ Health Issue:

Main concern: Animal research work performed outside of the vivarium at SLU is creating allergen exposure concerns for a sensitized individual.

Issue: Decentralized animal research creates an increased hazard for lab animal allergen exposure.

Recommendations: Centralize animal housing and animal work wherever possible. EH&S is recommending additional PPE and work practice modifications to prevent future exposure for a specific allergy case.

- In February, Environmental Health & Safety responded to an incident concerning a South Lake Union (SLU) researcher.
- The researcher was handling a rat when preparing the animal for a metabolic study in one of the procedure rooms adjacent to their lab space (not in a vivarium), when the researcher was bitten on the hand.
- The employee followed the appropriate exposure protocols post-bite, but later noticed a significant inflammatory response progressing up the arm that required immediate medical attention.
- Based on this incident and previous medical evaluations, it was determined that the employee is highly sensitive to lab animal allergens, and that additional exposure controls need to be identified in order for the employee to return to normal work.
- EH&S is recommending additional PPE and work practice modifications to prevent future exposure, but more effective measures are limited by the location of this lab's animal work.
- Due to lack of space in the Brotman Vivarium, this lab performs metabolic studies and surgery on rats in three procedure rooms in their main lab. These rooms are directly adjacent to the general lab space, which includes benchtop areas and computer workstations. The employee occupies one of the workstations when not working with the rats.
- Since animals are transported through the lab, in and out of the procedure rooms, and in and out of their cages for experiments in the procedure rooms, allergen contamination in the general lab area is likely. Some additional ventilation has been installed in the procedure rooms, but it is designed for isoflurane exposure control. All of this research is at ABSL1 level, so additional isolation of the animals is not mandated by the research protocol.
- Based on the observations, even if measures can be taken to mitigate the individual's exposure while performing animal work, the employee may still be exposed to animal allergens while sitting at the computer.
- This decentralized animal research creates an increased hazard for lab animal allergen exposure not only for the researcher described in this case, but for all coworkers. It should be noted that IACUC has reviewed and approved these procedure rooms.
- While new lab space is currently being constructed for this lab in SLU3.2, these concerns will still be present; animals will be housed and worked with in a decentralized location. This investigation and evaluation is still ongoing.

Protocol Monitoring:

There are 18 active protocols on the veterinary monitoring program. I would like to remove the one protocol that I discussed last month, protocol 3328-06. This protocol uses a ferret model to investigate neonatal brain injury. The concern was raised during review by an IACUC member if the hypoxia the kits were exposed to would cause distress. I reported last month that I observed this procedure and did not observe any indications of distress in the neonatal ferrets that were exposed

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to hypoxia. I did not ask to remove it from monitoring last month as a separate issue had arisen, increased mortality associated with the surgery being used to produce the brain injury. Vet services and the pathology staff has worked closely with the group, and small modifications were made to the surgery during that collaboration that has improved the outcome. As vet services is closely involved in this procedure and the group promptly reports any mortality, I do not see any reason to leave it on monitoring.

Motion was made and seconded: to remove 3328-06 from the vet monitoring program.

Discussion: *None*

Vote on the Motion: Approved with 14 members voting in favor.

Adverse event:

Protocol 4122-01

On 3/5/18, two approximately 7 day old mouse pups were found in the cooler still moving. They were amid a litter of 14 and 17 day old pups and the investigator involved assumed that they were runted 14 day old pups. Seven day old pups are very resistant to CO2 and while they will become narcotic, and not move, they will not be euthanized by the standard methods that are utilized for mice greater than 10 days old. The investigator had euthanized the mice approximately 45 minutes before they were found and had placed them in a bag filled with CO2. The individual involved has been retrained to verify death prior to putting the mice in the bag as well as how to properly age mouse pups. The investigator and PI responded immediately when this was brought to their attention and the PI has retrained all of her lab members regarding euthanasia techniques. The animals involved were humanely euthanized immediately once they were found.

Motion was made and seconded: to send a letter of counsel asking the investigator to reiterate the steps that have been taken and acknowledging the promptness in coming forward.

Discussion: *None*

Vote: Approved with 14 members voting in favor.

HBA Subcommittee:

The HBA committee met this month and discussed incidents of morbidity and mortality in USDA species. We also discussed how or if issues resolved in pre-review should be communicated to the IACUC. Finally, we discussed the ferret protocol I mentioned above and whether animals on this protocol would be expected to be category E based on the planned experiments. The subcommittee felt that these animals would not be expected to be category E based on the planned procedures. They did recommend leaving this protocol labeled as cat E so that follow-up could continue. I would urge you to look at the minutes for further insight.

OAW Director's Report – STI

- **Concerns found during IACUC site visits** are visible in HoverBoard.
- **PI Response to Letter of Counsel:**

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- IP placement of a mini-pump in a rat was not approved on the protocol. The PI acknowledged the error. He has instituted a policy that no experiment is to be undertaken until 2 senior members of the lab confirm that everything is approved on the protocol. In addition, all lab members have now re-reviewed the protocol. There was no further discussion from the IACUC. **A final report will be sent to OLAW.**

- **Metrics**
 - 93 items have been reviewed in the last month.
 - Urgents in the last 12 months have ranged from 2-14 items.
 - *Time it takes for approval – Time from submit to approve.*
 - *Would like to see the median rather than the means, and split out by different parts of the review/approval cycle.*
 - *There is a team in OAW currently looking at where the largest time sinks are located in the review process. They will then work with researchers and reviewers to help decrease this time.*
 - *Is it possible to have HoverBoard send automatic notifications to researchers that something is awaiting action?*
 - *All items awaiting action are continually visible in the person's HoverBoard inbox. It would not be easy to have the system send additional notifications beyond the one that comes out when the item is first assigned to them.*
 - *Currently considering a withdrawal policy.*
 - *Can also run a report to see any outstanding items.*

- **Adverse Events**

Protocol 2183-02

3/7/18 – 5 cages of mice born 12/19/18 and 1/21/18 in colony room. They had not been tailed for genotyping when weaned. The animals were anesthetized, but the investigator did not administer ketoprofen. At the time, they did not realize that collecting tissue samples over 28 days of age was not approved on their protocol.

An amendment is being submitted to add this to the protocol. Both tail sample collections and ear punches will be included in the amendment.

Animals were not used for data and were ultimately euthanized.

This incident will be reported to OLAW.

Motion was made and seconded to send letter of acknowledgement for self-reporting.

Discussion: *None.*

Vote: Approved with 14 members voting in favor.

Protocol 2225-07 – Myocardial Infarction Therapy - Pigs

This group investigates a novel gene therapy in myocardial infarction and human stem cell therapy.

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Amiodarone administered at higher dose than what was approved in their protocol. 14 days @ 45 mg/kg/day for 2 animals and 13 days @ 45 mg/kg/day for one day before it was discovered. Higher dose was beneficial for the animals so it was clinically increased until the protocol was amended.

The incident has been reported to OLAW and the USDA.

Motion was made and seconded to send letter of acknowledgement for self-reporting

Discussion: *None.*

Vote: Approved with 14 members voting in favor.

MEMBER LEFT @ 3:51pm – still a quorum

- The USDA site visit 6-8 March. No deficiencies were found. The inspectors made some suggestions, including handling of minutes from the Harm-Benefit Subcommittee and the process of assigning DMR's. OAW is following up on the DMR assignment process to seek clarification between the USDA and OLAW.

Standard Operation Procedures / Policies / Guidelines

- WaNPRC Housing Exemption Request – **CH**
 - *USDA rules for floor space is very specific regarding weight. Wanting to group animals in groups of 4 rather than groups of 2. Cages are group 3 cages, floor space is adequate to group 2 (3 kg).*
 - *Asking to be able to house 4 animals, up to 5 kg, so they can be in a large social group.*
 - *Why is the space adequate?*
 - *It is the same volume and a group of 4 is better than a group of 2 in juveniles.*
 - *This also allows for more expression of species typical behaviors.*
 - *Animals will be monitored by Behavioral Management Team.*
 - *Allowed to request an exemption based on the Animal Welfare Act.*
 - *Same kind of exemption that is already approved for infant cage height.*
 - *Report back (in a year)*

Motion was made and seconded: A motion to approve the policy was made and seconded.

Discussion: *as above*

Vote: Approved with 13 members voting in favor.

- WaNPRC Elevator SOP – **CH**
 - First aid kits have been added.

Motion was made and seconded: to approve the SOP.

Discussion: *none*

Vote: Approved with 13 members voting in favor.

Other Business

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- **Essential for UW IACUC Members online training – JS**
 - *A key element of IACUC new member training has slipped through the cracks. New members who have come on in the last year or so, have received excellent HoverBoard training but other training has slipped past.*
 - *There is online training available.*
 - *All members should go online and check out the training. New member should take it officially and pass the test. If a member has taken it previously, please look at it.*
 - *Please provide feedback for improvement.*
 - *The course is called Essential for UW IACUC Members.*
 - *Will provide deadline in email that will be sent out. 2 week limit.*
 - *Consider adding an expiration date – 5 year expiration.*
 - *Very good IACUC Training module that was developed by EC.*
 - *Read through that protocol and ask questions as if you are reviewing that protocol.*
 - *There is an answer guide.*
 - *Beneficial to helping learn about how to do the DMR process.*
 - *Site Visit Training*
 - *IACUC member training should be done twice a year.*
 - *Site visit training is done by setting up a room and walking through the space.*
- **DMR – Checking History – JS**
 - *Be sure to check the history of the submission especially during the Pre-Review. Questions and comments will be put in the history as comments. Conditional statements will also be here.*
 - *It is important to be aware of the questions and comments that have been raised about that particular submission and assure all questions are addressed.*
- **Inspecting vivarium storage areas and staff break rooms – STI**
 - *There has been discussion regarding whether or not storage areas and staff break rooms should be on the IACUC inspection list especially within the vivarium because items could be stored in these areas that shouldn't be and things could get missed.*
 - *Storage rooms that contain medication/chemicals in use should be inspected.*
 - *Rooms that are full of items such as racks that are not in use, are pointless to be inspected.*
 - *Consider refining the definition – just open the door and take a quick look.*
 - *Going in is different than inspecting.*
 - *If it is in the vivarium foot print, opening the door and taking a quick look to see if there is anything needs to be inspected.*
 - *Room repairs should always be checked for.*
 - *Will discuss this topic further at next IACUC meeting or when JPVH can attend.*

MEMBER LEFT @ 4:45pm – still a quorum

- **The difference between pain and suffering – STI**
TABLED TO NEXT MEETING

Closing Business:

The Meeting was brought to a close at 4:48pm. The floor was opened to public comment.