TEXAS A&M UNIVERSITY CORPUS CHRISTI

Institutional Animal Care and Use Committee

Minutes for November 12, 2021

Call to Order

The Texas A&M University-Corpus Christi Institutional Animal Care and Use Committee (IACUC) met on November 12, 2021, via Webex. Quorum was confirmed and the meeting was called to order at 1:03 pm with the following members present.

Total Number of Members Present in Voting Capacity: 7 # required for quorum: 6

Meeting Attendance

Meeting Chair:

Chair name	Voting Status	Membership	Affiliation	Scientific	Arrive late	Left Early	Teleconference
Felix Omoruyi	Voting	Full	Affiliated	Scientific	N/A	N/A	WebEx

Members Present: 6

Member name	Voting Status	Membership	Affiliation	Scientific	Arrive late	Left Early	Teleconference
Frauke Seemann	Voting	Vice Chair	Affiliated	Scientific	N/A	N/A	WebEx
Kesley Banks	Voting	Full	Affiliated	Scientific	N/A	N/A	WebEx
Roy Coons	Voting	Full	Affiliated	Scientific	N/A	N/A	WebEx
Dara Orbach	Voting	Full	Affiliated	Scientific	N/A	N/A	WebEx
Shawn McCracken	Voting	Full	Affiliated	Scientific	1:10	N/A	WebEx
Cecelia Gonzales	Voting	Full	Un-affiliated	Non-Scientific	1:57 pm	N/A	WebEx
Larry Lloyd	Non-voting	Alternate, Banks	Affiliated	Scientific	N/A	N/A	WebEx
Charles Sassine	Non-voting	Alternate, Banks & McCracken	Un-affiliated	Scientific	N/A	N/A	WebEx
John Scarpa	Non-voting	Alternate, Seemann	Affiliated	Scientific	N/A	N/A	WebEx

Staff and Guest Present:

Name	Job Title	Teleconference
Rebecca Ballard	Director, Research Compliance	WebEx
John Scarpa	IACUC & IBC Coordinator	WebEx
Shayna Whitaker	Prospective Veterinarian (primary)	WebEx
Carrie Ullmer	Prospective Veterinarian (back-up)	WebEx

Aaron Baxter	TAMU-CC Research Specialist II &PI	WebEx

I. Conflict of Interest

Members are reminded of their obligation to disclose any conflict of interest related to any of the items on today's agenda. The Chair called for any disclosures of conflict of interest. Conflicts were declared and are noted in the minutes on the relevant item.

II. Minutes

Minutes from October 8, 2021were reviewed. The Chair invited additional comments, questions, and/or concerns. Having none, the motion to approve was made, seconded and carried.

Vote yes: 5 Recused: 0
Vote no: 0 Excused: 2, McCracken, Gonzales
Abstain: 0

Meeting minutes from February 12, 2021 (clarifying strikethrough notations and deletion of template note) were reviewed. The Chair invited additional comments, questions, and/or concerns. Having none, the motion to approve was made, seconded and carried.

Vote yes: 5 Recused: 0
Vote no: 0 Excused: 2, McCracken, Gonzales
Abstain: 0

III. New business

The Committee reviewed new business items.

A) DMR rotation list review (600.03, approval needed)

DMR review schedule was reviewed. The Chair invited additional comments, questions, and/or concerns. Having none, the motion to approve was made, seconded, and carried.

Vote yes: 6 Recused: 0
Vote no: 0 Excused: 1, Gonzales
Abstain: 0

B) Veterinarian update

Dr. Yaw is rotating off as primary veterinarian as he has moved out of state. Dr. Underbrink will also rotate off in December.

Dr. Whitaker and Dr. Ullmer, joining the IACUC as guests today; both have agreed to serve in veterinarian capacity for the committee.

Dr. Whitaker as primary and Dr. P. Baker (not present today) as backup. Dr. Ullmer will also be onboarding with us as a second back-up veterinarian. We are very fortunate to have 3 vets willing to serve. The IACUC welcomed new members.

C) Membership update

Roy Coons will be rotating off as a full member with his announcement of pending retirement. Michael Garcia, his current alternate member, will become the full member representing EHS.

D) 2022 Meeting Dates through July 2022 (posted)

Members were provided with 2022 meeting calendar.

I. New Studies

IACUC #: 2021-10-034
Protocol title: Development of Oil-Specific Detection Canine Capability to Differentiate Between Background and Newly Deposited Oils on the Texas Coast
Principal Investigator: Aaron Baxter
Primary Reviewer: Frauke Seemann and Dara Orbach
Conflict of Interest: None
Species: *Canis familiaris* (domesticated dog)
Summary: We will study the ability of dogs to detect oil on unmanicured beaches in South Texas. In this study, dogs, trained to detect oil, will be used to survey beaches for oil deposits. Current survey techniques are time/people intensive. This study aims to develop a novel tool to increase efficiency in surveying coastlines for newly deposited oil. Dog handlers will be trained in proper animal welfare and records will be kept for feeding schedule, dog weights, exercise, and veterinary visits. No procedures will be performed on the animals or animal tissues. Procedures are not expected to cause any pain or distress to the animals. There will be no use of anesthetics or euthanasia.
Protocol Objectives: 1) Determine if an Oil Detection Canine can be trained to identify one specific oil and ignore all other oils present in the search area, and 2) Conduct a 12-month field survey using Oil Specific Detection Canines (OSDC) to determine the distribution and character of tar deposits on the Texas Coast.

CITI training: Tarkington missing OHP enrollment: Tarkington missing

Open meeting: Aaron Baxter joins at 1:20 pm

Q/C: Is there a duration expected for the dog beach activity? Is there a regulation on working dog hours and time? A: The surveys are 1000 m. Time depends on the dog and the time it spends to work that transect.

Q/C: Only two individual dogs are used. Are these the same breed and go through same training? If using as comparison, are there variables in two dogs being used.
A: Probably not the same breed as they are usually mutts used in this type of work. There are two oil specific dogs and one control. This is a proof of concept protocol, evaluating whether this work or not. The olfaction lab at Texas Tech would have shown that in their previous research if it was an issue. Preliminary data is not in the protocol since we are only covering the animal activiites after leaving Texas Tech.

Dogs will be housed with private owners in Corpus Christi. The control dog will be handled by Paul Bunker. Paul Bunker is an employee of Chiron K9. The control dog is owned by company Chiron K9. All three are currently owned by Chiron. Two will be adopted out.

After the study ends, the dogs will remain with private handlers but could be used in the future as working dogs. This is out of the control of PI.

Paul Bunker of Chiron will transport dogs from Texas Tech to Corpus Christi. He is not a animal transport handler. Not sure he has some sort of certification, if so it's probably not USDA.

Closed meeting: Mr. Baxter exited at 1:30 pm

Discussion: Ownership of dogs was discussed and responsibilities between researcher and private owners. Do they need to be listed on the IACUC protocol? A MOU with private owners is in the process with OSRA office. The private owner MOU spells out the responsibilites for the housing, feeding, maintenance and handling of the dogs.

Overall details in the protocol are sufficient but need to detail the transect area and time expected for animals to complete exercise.

Dog bites: What happens? Private owners are responsible for maintaining control of dogs and on lead to prevent bites. If one of our employees/staff was bitten by the dog on the job, then standard workers compensation procedures would be applied.

The Chair invited additional comments, questions, and/or concerns. Having none, the motion to approve with stipulations with a review period of one year was made, seconded and carried. Stipulations to be reviewed by one of original reviewers.

Stipulations include:

1. Includes details on how long transects are and how long dog training exercise will take place
2. Detail beach location
3. Complete private owner MOUs
4. Complete required training for all personnel.

Vote yes: 6 Recused: 0
Vote no: 0 Excused: 1, Gonzales
Abstain: 0

IACUC #: 2021-10-035
Protocol title: Fish Survey Training at Texas State Aquarium
Protocol type: Teaching/Training Protocol
Principal Investigator: Larry Lloyd
Primary Reviewer: Shawn McCracken and Roy Coons
Conflict of Interest: Larry Lloyd
Species: Fishes, marine (*Carcharhinus plumbeus, Sphyraena barracuda, Selene vomer, Dasyatis americana, Diodon hystrix, Pomacanthus arcuatus, Rhinoptera bonasus, Caranx hippos*, ...)
Summary: In this study, divers will be trained on how to perform visual fish surveys in exhibits at the Texas State Aquarium (TSA). All fish will be surveyed by visual census only, either by recording data observed onto a slate, or collecting data via video (non-flash). No fish will be handled during surveys. All fish are housed and owned by the TSA. No adverse change in the fish behavior is expected as the survey methods are visual observation only. The fish are exposed to divers on daily basis as TSA divers regularly enter the exhibits to perform maintenance. The TSA requires all divers to disinfect dive gear in a chlorohexadine solution prior to entry to ensure no contaminants or parasites are exposed to the exhibits housing the fish; the TSA provides this service in-house. All diving safety standards required by the American Academy of Underwater Sciences and the TAMU-CC Diving Control Board will be strictly adhered to. A TSA staff will be present during all surveys to ensure the safety of TSA exhibits; TSA staff will not engage in fish survey training. Two TSA exhibits will be utilized: Islands of Steel (100' long, 27' wide, 20' deep), and Caribbean Sea (60' long, 28' wide, 15' deep). The TSA will coordinate with TAMU-CC Dive Operations to allow divers to train visual fish surveys approximately 12 days within a single year, one day per

month. During each day of sampling, up to 4 time slots will be established during which a group of divers will be given an opportunity to train visual fish surveying. The number of divers allowed to perform a visual survey at one time will be 4 divers-in-training and 1 dive supervisor in the Islands of Steel exhibit and 6 divers-in-training and 1 dive supervisor in the Caribbean Sea exhibit. Each survey will take approximately 30-40 minutes to complete.
Protocol Objectives: The objectives of this project are to train Scientific Divers-in-Training how to conduct visual fish surveys in a controlled environment with adequate visibility, the Texas State Aquarium.

CITI training: verified OHP enrollment: verified

Open meeting: Larry Lloyd at meeting

There is an extensive species list in the protocol. Is it likely that list could change over time? Yes. PI indicted he would update the list via an amendment.

Closed meeting: Larry Lloyd exited at 1:45 pm

Discussion: A good job of detailing project and limiting stressors to animals was presented, such as not using flash for vidoes. Fish in the aquarium are already acclimiated to humans who regularly enter tank for routine feeding or servicing. Disinfection procedures detailed to ensure no harm to animals.

The Chair invited additional comments, questions, and/or concerns. Having none, the motion to approve with a review period of one year was made, seconded and carried. No Stipulations.

Vote yes: 6 Recused: 1, Lloyd (non-voting)
Vote no: 0 Excused: 1, Gonzales
Abstain: 0

Larry Lloyd re-enters at 1:50 pm.

IACUC #: 2021-10-031
Protocol title: Bottlenose dolphin health assessment
Principal Investigator: Dara Orbach
Primary Reviewer: Larry Lloyd and Felix Omoruyi
Conflict of Interest: Dara Orbach
Species: *Turisops truncatus* (common bottlenose dolphin)
Summary: A Federal Aviation Authority certified pilot listed on P.I. Orbach's National Marine Fisheries Services research permit will fly an unmanned aerial vehicle over groups of dolphins to collect videos of their bodies. Remote biopsy tissue samples will be collected with a modified crossbow and floating arrows to assess the stress hormone levels of these dolphins.
Protocol Objectives: (1) establish baseline data on the skin lesion prevalence and severity of free-swimming common bottlenose dolphins in South Texas and (2) establish baseline on stress hormone levels of free-swimming common bottlenose dolphins in South Texas

CITI training: verified OHP enrollment: verified

Open meeting: Dr. Orbach present at 1:50 pm

Crossbow training is evaluating shooting at a small area on a moving target on a boat. If they do not feel confident in your skills, you will not be signed off. Crossbow training will be completed by mid-December.

Clarified a sentence: 3 attempts per group for no more than 10 minutes in following group.

Previous research reviewed. Is there a reference for the previous research? The reference is cited on the permit. Member would like to include the citation in the statement in the protocol.

Barnet Panzer V is referencing the name of the crossbow. Where is the biopsy site, fins or body? It is just below the dorsal fin on the body. What is the depth of the biopsy? Seven mm is the width of the biopsy. PI will check on the depth of the bioposy. Certa-Dart is only company producing dart sampler. The company is the only company in the market used to collect specimens without penetrating past the blubber layer. Depth of cutterhead is not specified by company, but know it is not deep enough to penetrate blubber layer and cause harm.

Ceclia joined at 1:57 pm

Closed meeting: Dr. Orbach exited at 1:58 pm

Discussion:

Drone pilot licensing and permit used in location discussed; certain drones may not be used in certain areas. This is not an IACUC issue, but OSRA does check on UAV use and compliance.

The Chair invited additional comments, questions, and/or concerns. Having none, the motion to approve with a review period of one year was made, seconded and carried. Stipulations to be reviewed by chair or vice-chair.

Stipulations include:

1. Include reference citations
2. Add details on depth of biopsy
3. Crossbow training complete

Vote yes: 6 Recused: 1, Orbach
Vote no: 0 Excused: 0
Abstain: 0

Dr. Orbach re-enters at 2:03 pm.

II. Semi-Annual Program Inspection

Semi-annual program evaluation has been conducted. Committee reviewed Semiannual Program Review Checklist.

A. On-campus labs

On November 8, 2021, the following IACUC members conducted an in-person and remote Semi-Annual Inspection of on-campus facilities and animals: Dr. Taylor Yaw (veterinarian, remote), Dr. Jean Sparks, Mr. Eric Christensen (remote), Dr. Shawn McCracken (remote), Dr. John Scarpa, Mr. Larry Lloyd, Mr. Michael Garcia, and Dr. Paula Baker (veterinarian onboarding, guest, remote).

The on-campus locations inspected included:

Location	Species	IACUC #	PI
Tidal Hall 314M	Fish - Flounder and Seatrout	09-19	Geist
Tidal Hall 314M	Fish - Flounder and Seatrout	22-18	Geist
Tidal Hall 314M	Fish - Flounder and Seatrout	22-18	Geist
Tidal Hall 114G	Zebrafish	2021-10-032	Xu

Tidal Hall 114G	Fish – Japanese Medaka	03-19	Seemann
Tidal Hall 114G	Fish – Japanese Medaka	23-19	Seemann
Tidal Hall 114G	Fish – Japanese Medaka	26-19	Seemann
Tidal Hall 114G	Fish – Japanese Medaka	2020-10-013	Seemann
Tidal Hall 114G	Marine medaka	2021-08-024	Seemann
Tidal Hall 114G	Marine medaka	2021-04-009	Seemann
Tidal Hall 251	Marine medaka	2021-04-009	Seemann
NRC 1018	Reptiles – Turtles	2020-09-009	Baxter
Islander Green Team garden	Fish – Japanese Medaka	23-19	Seemann

Tidal Hall 114G Seemann

Open Meeting: Dr. Seemann present at 2:04 pm

Dr. Seemann provided an update to her findings. The protocol has been provided.

Mold or mildew noticed during inspection. This is a building issue. EHS phoned earlier and this is being remediated through EHS.

Closed meeting: Dr. Seemann exited at 2:06 pm

Protocol was not present. PI indicate this fixed. Unlabeled small fish found in the freezer. Students were informed to label fish. Back splash will be added through EHS work order to remediate mold or mildew issue.

Tidal Hall 114G Xu

Logs were missing years. This was noted in past June inspection. Missing data in the log. Someone is in the log during these days where water quality is being measured but fish feeding is not logged. Log clarity and completeness is a repeat finding. Recommended at the last inspection to have PI review logs weekly to ensure they are completed. Expired feed noted in fridge. Labels missing. Small amounts of water pooled under the tanks that could pose a slip hazard. Unauthorized personnel noted in inspection. A.H. initials are found on the logs before they were added as study personnel via the amendment approved on 19 Oct 2021.

Members asked to evaluate if these findings are minor or significant. This is a repeat finding with inspection logs and unlabeled food. Past inspections were reviewed. Committee determined at this point the finding is a minor finding.

Unauthorized personnel: Other study staff was reviewed to see if there is anyone else with initials as AH that could have entered in the logs. No other personnel have similar initials. Need to confirm with PI/staff that these are truly his initials. An amendment was submitted with five personnel. The amendment had incomplete training. When training was completed on 19th, the personnel was approved once training was verified. The logs indicate the person was performing animal welfare checks via the logs prior to the approval of the amendment adding A. Hernandez to the study. According to logs A. Hernandez was potentially working as early as August 15, 2021. Having someone untrained handling the animals can be detrimental to animal health.

Motion to determine minor finding for item 3 and significant for item 8. Chair asked for further discussion. Having none, the motion to determine for TH 114G Xu was signficant for item 8 (unauthorized personnel) and minor for all other items was made, seconded, and carried.

Vote yes: 6 Recused: 0

Vote no: 0 Excused: 1, Seeman
Abstain: 1 (Scarpa, alt for Seemann)

Tidal Hall 251 Seeman

Small incubator used to do exposures in BSL-2 lab under Dr. Turner. No contact information in case of power failure.

Corrective action time period: Committee determined corrective action timeline should be before next IACUC meeting, December 10.

ABSL-2 indication:

The PHS Policy defines an animal as "any live, vertebrate animal used or intended for use in research, research training, experimentation, or biological testing or for related purposes." Although zebrafish embryos develop anatomical structures characteristic of vertebrates such as a notochord, pharyngeal arches, a neural tube, and somites prior to hatching, OLAW interprets the PHS Policy's definition of a live vertebrate animal to apply to zebrafish (and other embryonated eggs) immediately after hatching. This reduces the burden that would have been imposed by OLAW if researchers were required to identify and account for zebrafish embryos at earlier developmental stages. https://grants.nih.gov/grants/guide/notice-files/NOT-OD-21-118.html NOT-OD-21-118

Remove the A in front of the BSL-2 as this is not a designated ABSL-2 facility.

NRC 1018 Baxter

No emergency contact information posted on lab. Unclear what area in lab is his animal area as the lab is shared. Had approval letters but not the complete protocol. Baxter was not present at the inspection.

B. Off-campus labs

Dr. Seemann reenters at 2:38 pm.

On November 9, 2021, the following IACUC members conducted an in-person and remote Semi-Annual Inspection of off-campus facilities and animals: Dr. Taylor Yaw (veterinarian, remote), Dr. Felix Omoruyi, Dr. Frauke Seemann, Dr. John Scarpa, Mr. Larry Lloyd, and Dr. Shayna Whitaker (veterinarian onboarding, guest, remote).

The off-campus locations inspected included:

Location	Species	IACUC #	PI
TPWD CCA Marine Development Center, 4300 Waldron Road, Corpus Christi, Texas	Southern Flounder Spotted Seatrout	22-18	Geist
The Nature Conservancy Francine Cohn Preserve, 7797 TX-361, Port Aransas, TX 78373	Southern Flounder	2020-10-012	Geist

Corrective actions completion date set for 12/10/2021.

Members reviewed deficiency findings and inspection report. The Chair invited additional comments, questions, and/or concerns. Having none, the motion to accept findings and inspection report was made, seconded and carried.

Vote yes: 7 Recused: 0
Vote no: 0 Excused: 0

Abstain: 0

III. Amendment

IACUC #: 2020-10-012
Protocol title: Post-release Survival, Growth and Habitat Preference of Hatchery-Reared Southern Flounder (*Paralichthys lethostigma*)
Principal Investigator: Simon Geist
Primary Reviewer: John Scarpa and Felix Omoruyi
Conflict of Interest: Nnone
Species: *Paralichthys lethostigma*
Amendment Type: Change Location
Amendment Justification: During the summer experiment, several interacting factors (e.g., predation by blue crabs that managed to enter the net pen, low oxygen concentrations, etc.) may have contributed to the mortality rates observed. Their relative influence can not be quantified and conditions are not able to be controlled at the field site to avoid the same from happening in the next experiment. Therefore, we decided to move the net pen setup to TPWD MDC Hatchery (4300 Waldron Rd, Corpus Christi, TX 78418) ponds (1-2 Acre area per pond). These will be filled with natural seawater to provide ample food, water level can be adjusted and if necessary aeration can be provided, while blue crabs are not occurring, providing a more controlled natural environment.

A reportable event for exceeding mortality is forthcoming from PI.

Ponds are 1 – 2 acers. This move will help them control and monitor environment and system to prevent future mortalities.

The Chair invited additional comments, questions, and/or concerns. Having none, the motion to approve was made, seconded and carried.

Vote yes: 7	Recused: 0
Vote no: 0	Excused: 0
Abstain: 0	

IV. Continuing Review

IACUC #: 2020-10-013
Protocol title: Use of transgenic fish to unravel the mechanisms of inherited bone deformities
Principal Investigator: Frauke Seemann
Primary Reviewer: Wei Xu and John Scarpa
Conflict of Interest: Frauke Seemann
Protocol type: Animal Research Protocol
Species: Japanese Medaka (*Oryzias latipes*)
Summary: The WHO considers osteoporosis the "silent epidemic of the 21st century", rendering 50 million people in the US more susceptible to bone fractures. Increasing evidence suggests parental (preconception), in utero and early life environments being causal for fragility fracture susceptibility in adults. Exposure to environmental stressors, such as polycyclic aromatic hydrocarbons (PAHs), has been repeatedly associated with increased odds of developmental bone defects in the offspring and is considered a risk factor for later life-stage osteoporosis. Previous studies by the PI revealed that preconceptional parental PAH exposure at average human exposure doses (250-750 ng/day Benzo[a]pyrene (BaP)) in the vertebrate bone model Japanese medaka resulted in larval skeletal deformities and adult vertebral bone loss. This osteoporotic phenotype in the F1 generation was induced via modulation of osteoblast cell differentiation and activity during development, eventually resulting in the loss of bone tissue in the

adult male fish. With evidence increasing that bone development is critical for adult skeletal integrity and the absence of a cure for osteoporosis, it is detrimental to elucidate the mechanisms involved in osteoblast differentiation and function during development to develop preventive strategies for later life-stage bone pathologies. There is an urgent need to characterize the genetic and epigenetic profile of the osteoblast cell population at different maturation stages to pinpoint critical windows for later bone mineral density impairment. This knowledge will greatly advance therapeutic approaches to optimize bone health and reduce osteoporosis risk. Using the unique osteoblast reporter transgenic medaka lines, it is hypothesized that parental BaP exposure deregulates osteoblast gene expression during critical windows of cell differentiation through a modified DNA methylation profile.

Specific aim 1: Profiling the gene expression in a) sclerotome-derived, b) osteoblast progenitor and c) preosteoblast cells from parentally BaP-exposed and unexposed Japanese medaka (F1).
Preliminary data indicate a BaP-induced impairment of bone mineralization in concomitance with major osteoblast differentiation steps. The comparison of the transcriptomic data will allow to test the working hypothesis that ancestral BaP exposure impacts bone gene expression at multiple osteoblast differentiation steps. In addition, new insights will be gained on the involvement of osteoblast subpopulations with specific functions during bone development.
Specific aim 2: Determine the role of DNA methylation in a) sclerotome-derived, b) osteoblast progenitor and c) preosteoblast cells from parentally BaP-exposed and unexposed Japanese medaka (F1). Many of the long-term effects on bone health may be modulated by epigenetic mechanisms - mitotically heritable alterations in gene expression that are not caused by changes in DNA sequence. The PI's preliminary data on global DNA methylation and research by others demonstrated the involvement of DNA methylation in BaP-induced cross-generational inheritance. The working hypothesis is that a modified DNA-methylation profile is responsible for the differently regulated genes identified in the different osteoblast maturation stages in response to parental BaP exposure. Aligning methylome and transcriptome will yield valuable information on regulation of osteoblast subpopulation function and differentiation.
The proposed project will significantly advance the Developmental Origins of Health and Disease (DoHaD) hypothesis for osteoporosis and improve the understanding of osteoblast differentiation and subpopulation function during bone development for therapeutic intervention. The understanding of a likely causal relationships between methylome modification and bone health will be significantly advanced and thus improving ecological risk and public health impact assessment of BaP/PAH pollution.

CR update: The first BaP-exposure experiment has been conducted using the twist:dsred/Col10:gfp transgenic fish line.
Adverse Events reported? No
Alternatives to Animal Use? No
Alternatives to Potentially Painful Procedures? No
Not Unnecessarily Duplicative? Yes

CITI Training:verified OHP enrollment: verified

Open meeting: Frauke Seemann present at 2:44 pm.

First exposure experiment successfully conducted. No adverse events reported. The experiment is successful. Saw small decline in reproduction, which is expected. Training and enrollment verified.

Closed meeting: Frauke Seemann exited at 2:47 pm.

Discussion: No further comments.

The Chair invited additional comments, questions, and/or concerns. Having none, the motion to approve was made, seconded, and carried.

Vote yes: 6 Recused: 1, Seemann
Vote no: 0 Excused: 0
Abstain: 1 (Scarpa, alternate for Seemann)

Dr. Seeman did not reenter meeting after exiting at 2:47 pm.

V. Other

The next IACUC meeting is scheduled for December 10, 2021, from 1:00 pm to 3:00 pm.

Meeting was adjourned at 2:49 pm.