

## VIII. Membership of the IACUC

| Date: January 16, 2019  |                             |   |   |
|---|-----------------------------|---|---|
| Name of Institution: Christopher Newport University   |                             |   |   |
| Assurance Number:   |                             |   |   |
| <b>IACUC Chairperson</b>  |                             |   |   |
| Name*: Matthew Campolattaro   |                             |   |   |
| Title*: IACUC Chair, Assistant Professor of Psychology                                      |                             | Degree/Credentials*: Ph.D. in Psychology                                      |   |
| Address*: (street, city, state, zip code)<br>1 Avenue of the Arts<br>Newport News, VA 23606 |                             |   |   |
| E-mail*: <a href="mailto:matthew.campolattaro@cnu.edu">matthew.campolattaro@cnu.edu</a>     |                             |   |   |
| Phone*: (b) (6)   |                             | Fax*: (b) (6)   |   |
| <b>IACUC Roster</b>   |                             |   |   |
| Name of Member/<br>Code**   | Degree/ Credentials         | Position Title***   | PHS Policy Membership<br>Requirements**** |
| Matthew Campolattaro  | Ph.D in Psychology          | Assistant Professor<br>and Chair, IACUC                                       | Scientist                                 |
| (b) (6)   |                             |   | Nonscientist                              |
| Len Murray  | DVM, MPH,<br>DACLAM, DACVPM | Attending Veterinarian  | Veterinarian                              |
| Mario Rodriquez   | DVM, MLAS                   | Attending Veterinarian<br>– Comparative<br>Medicine Division,<br>Sobran, Inc. | Alternate Veterinarian                    |
| (b) (6)   |                             |   | Scientist                                 |
| (b) (6)   |                             |   | Scientist                                 |
| (b) (6)   |                             |   | Scientist                                 |
| (b) (6)   |                             |   | Nonscientist, Nonaffiliated               |

\* This information is mandatory.

\*\* Names of members, other than the chairperson and veterinarian, may be represented by a number or symbol in this submission to OLAW. Sufficient information to determine that all appointees are appropriately qualified must be provided and the identity of each member must be readily ascertainable by the institution and available to authorized OLAW or other PHS representatives upon request.

\*\*\* List specific position titles for all members, including nonaffiliated (e.g., banker, teacher, volunteer fireman; not "community member" or "retired").

\*\*\*\* PHS Policy Membership Requirements:

|                      |   |
|----------------------|---|
| <i>Veterinarian</i>  | veterinarian with training or experience in laboratory animal science and medicine or in the use of the species at the institution, who has direct or delegated program authority and responsibility for activities involving animals at the institution.   |
| <i>Scientist</i>     | practicing scientist experienced in research involving animals.   |
| <i>Nonscientist</i>  | member whose primary concerns are in a nonscientific area (e.g., ethicist, lawyer, member of the clergy).   |
| <i>Nonaffiliated</i> | individual who is not affiliated with the institution in any way other than as a member of the IACUC, and is not a member of the immediate family of a person who is affiliated with the institution. This member is expected to represent general community interests in the proper care and use of animals and should not be a laboratory animal user. A consulting veterinarian may not be considered nonaffiliated. |

*[Note: all members must be appointed by the CEO (or individual with specific written delegation to appoint members) and must be voting members. Non-voting members and alternate members must be so identified.]*



## X. Facility and Species Inventory

| Date: January 16, 2019                              |   |  |                                      |
|---|---|--|--------------------------------------|
| Name of Institution: Christopher Newport University |   |  |                                      |
| Assurance Number:                                   |   |  |                                      |
| Laboratory, Unit, or Building*                      | Gross Square Feet [include service areas] | Species Housed [ <i>use common names, e.g., mouse, rat, rhesus, baboon, zebrafish, African clawed frog</i> ] | Approximate Average Daily Inventory  |
| (b) (4)   | 5050                                      | Mice, rats   | Mouse (22), Rat (16)                 |
|   | 430                                       | N/A – Procedural Space Only  | N/A – Procedural Space Only          |
|   | 430                                       | Zebrafish  | Zebrafish (140)                      |
|   | 450                                       | N/A – Procedural Space Only  | N/A – Procedural Space Only          |
|   | 570                                       | Mummichog  | Mummichog (90)                       |
|   | 1970                                      | Betta splendens, zebrafish   | Betta splendens (30), zebrafish (60) |
|   | 1170                                      | Betta splendens, goldfish  | Betta splendens (18), goldfish (8)   |
|   | 1170                                      | N/A – Procedural Space Only  | N/A – Procedural Space Only          |
|   | 1170                                      | N/A – Procedural Space Only  | N/A – Procedural Space Only          |

\*Institutions may identify animal areas (buildings/rooms) by a number or symbol in this submission to OLAW. However, the name and location must be provided to OLAW upon request.



Memorandum

To: Geoffrey Klein, Vice Provost and IO IACUC

From: Matthew Campolattaro, IACUC Chair

Subject: Food and Bedding Storage in the Animal Care Facilities

Date: 4/18/2019

This memo serves to explain how animal food and bedding are currently stored in CNU's Animal Care Facilities, and why IACUC approves the use of this area.

The food and bedding storage room contains three doors. One door leads to the central corridor of the Animal Care Facilities, a second door leads to an animal quarantine room (currently animal-free), and the third door is an external exit. IACUC has determined that the room may be considered a "corridor" because it contains an external exit. The *Guide* states that a corridor is not an appropriate location to store animal food and bedding (p. 141). Therefore, IACUC's fall 2018 semi-annual report to the IO stated that CNU's animal food and bedding practices deviate from the *Guide*'s recommendation. However, IACUC has approved this room for animal food and bedding storage because: (1) the items are stored on elevated platforms, (2) the animal care staff carefully monitors and logs the room's temperature and humidity daily, (3) there is minimal foot traffic in this room, and (4) an active surveillance program exists to ensure that the feed and bedding are not affected by pests. Moreover, the *Guide* does not include a "*must*" or "*should*" statement regarding the storage of food and bedding in corridors, and thus IACUC has not requested that CNU change how animal food and bedding is stored in its Animal Care Facilities.



Memorandum

To: IACUC

From: Geoffrey Klein, Vice Provost and IO

Subject: Specific Plan and Schedule to address Humidity Regulation Issues in ACF

Date: 3/27/2019

Per PHS Policy IV.B.3.e, a reasonable and specific plan and schedule for correcting any deficiencies outlined in the semiannual report must be developed and communicated to IACUC. This memo serves to provide a specific plan and schedule for current humidity regulation issues in the Animal Care Facility (ACF).

| Plan  | Schedule                    |
|---|-----------------------------|
| CNU Plant Ops will work with Cemline (humidifier manufacturer) in an attempt to determine what could cause heating elements to burn-out so quickly. As a part of this determination, the local equipment representative (TLA) will visit the site to assist in determining cause. | January 2019<br>August 2019 |
| CNU Plant Ops will also reach out to the Evoqua representative to discuss the possibility of a water quality issue. Evoqua and CNU will investigate the use of a DI water solution to meet the needs of the humidifier.   | January 2019<br>August 2019 |
| Identify the issue based on work with Cemline, TLA, and Evoqua.   | August 2019                 |
| Fix current system in an effort to regulate humidity  | December 2019               |

Concurrent to this plan, Plant Ops will also price out a new boiler unit to regulate humidity. If the issue with our current boiler remains unknown, Christopher Newport University will pursue its replacement in August 2019 with installation occurring by the end of the 2019-2020 academic year.



# CHRISTOPHER NEWPORT

## U N I V E R S I T Y

### Animal Care and Use Program Semiannual Program Review Response

To: Dr. Matthew Campolattaro, IACUC Chair  
From: Dr. Geoffrey C. Klein, Institutional Official  
Subject: Response to December 2018 Semiannual Program Evaluation  
Date: January 5, 2019

Thank you for the semiannual report and the excellent news that IACUC is performing its responsibilities as required. I appreciate the committee's diligence in performing its semiannual inspection and continuing to enhance Christopher Newport's program to ensure the appropriate care and use of animals for research, research training, experimentation, teaching (including classroom demonstrations), biological testing or for other related purposes. Based on my review, it appears as if only five minor deficiencies were noted, with two having already been rectified. I ask that IACUC follow up with the responsible party(ies) of the remaining three deficiencies to ensure appropriate corrective actions are taken.

I want to take this opportunity to update IACUC on the recent fluctuations of humidity in and out of the acceptable range in the Animal Care Facility (ACF). As IACUC is aware, a new boiler was installed this past summer and appeared to be operational throughout most of the fall semester. However, as the winter months began it was determined by Plant Ops that all the new elements in the system were no longer operational. They are currently investigating causes to this issue, including the power to the boiler. I will continue to update the IACUC as Plant Ops investigates this issue. I might also recommend IACUC invite Scott Gesele, Director of Facilities Management, to an upcoming IACUC meeting for additional information regarding the ACF.

Finally, Section A.12 indicates IACUC "is still in the process of establishing an anonymous online Whistleblower Report Form." However, an anonymous online form was developed and implemented in January 2018.

Thank you again for all the hard work done by IACUC since the last semiannual report.

Best,

(b) (6)

Geoffrey C. Klein  
Vice Provost  
Institutional Official

# Institutional Animal Care and Use Committee

## Memorandum

To: Dr. Geoffrey Klein, Vice Provost & Institutional Official (IO)  
 From: Institutional Animal Care and Use Committee (IACUC)  
 Subject: Semiannual Program Review and Animal Facilities Inspection Report  
 Date: Dec 17, 2018

The Christopher Newport University (CNU) IACUC is pleased to present you with our fall 2018 semiannual report. Please note that this report adheres to the requirements specified in the *USDA Animal Welfare Regulations* (9 CFR Chapter I, subchapter A) and *Public Health Policy (PHS) Policy on Humane Care and Use of Laboratory Animals* (Section IV.B.1.-2.).

IACUC conducted semiannual facilities inspections on October 29 and 30, 2018 and semiannual review of CNU's Animal Care Program during our Dec 11, 2018 meeting. Considerations were given to *The Guide for the Care and Use of Laboratory Animals* (aka, *The Guide*; 8<sup>th</sup> Edition), *The USDA Animal Welfare Regulations* (9 CFR Chapter I, 2.31) and the *Semiannual Program Review and Animal Facilities Checklist* (Office of Laboratory Animal Welfare; v3/8/2012) during the evaluation process.

Please note that IACUC will keep records of the checklists for three years.

## Part I. Semiannual Program Review

### A. Institutional Policies and Responsibilities

#### 1. *Animal Care and Use Program*

The CNU IACUC assumes responsibility by all members for animal well-being, the IO has the authority to allocate resources, resources to manage program of veterinary care are provided, the program needs are communicated to the IO by the Attending Veterinarian (AV) or the IACUC, and our animal care facility has full-time management. At this time, one member has attended IACUC 101 and 301, two members have attended IACUC 101 and 201, and one member has attended IACUC 101, 201 and 301. All members have completed online Collaborative Institutional Training Initiative (CITI) training modules.

#### 2. *Disaster Planning and Emergency Preparedness*

SoBran Inc. has provided IACUC with a disaster plan for CNU's animal care facility. The disaster plan includes the following: plans for animal euthanasia, triage plans to meet institutional and investigators' needs, plans to prevent animal injury due to HVAC issues, and plans to preserve critical or irreplaceable animals. The disaster plan has been approved by the IO and is shared with CNU law enforcement and emergency personnel.

Remote monitoring systems are in place to notify key personnel when temperature and/or humidity fall out of acceptable ranges for the animal care facility.

A disaster/laboratory safety plan also exists for Biology Research Lab I.



### 3. ***IACUC***

The IACUC determined that it meets as necessary to fulfill responsibilities and IACUC members named in protocols or with conflicts of interest recuse themselves from protocol decisions. A post-approval monitoring program (PAM) is in place and evaluations of the effectiveness of training programs have been approved by the IO.

### 4. ***IACUC Protocol Review- Special Considerations***

The IACUC meets all recommendations in the protocol review process, including Special Considerations. This includes a system to communicate with the IACUC for pilot studies and enhanced monitoring of genetically modified animals. Additionally, justification of restraint of animals (including the purpose, restraint device, time spent in restraint, training of animals, removal of animals that fail to adapt, and veterinary care) are all contained in applicable protocols. Also within protocol review, the IACUC ensures that multiple surgical procedures on the same animals are justified, all surgical procedures are evaluated on a case-by-case basis, body weight for food-restricted animals is monitored and recorded by the PIs on a daily basis and pharmaceutical grade chemicals are justified and approved by the IACUC when used. Lastly, investigators in field studies are aware of zoonotic diseases, safety issues and laws. Field protocols include a means for species to be removed from the wild and toe-clipping is only used when there is no alternative.

### 5. ***IACUC Membership and Functions***

IACUC is comprised of seven members who have been appointed by the IO. Membership consists of a veterinarian, scientists, nonscientists and a non-affiliated community member with an alternate for the community member. The IACUC has the authority and resources for oversight of the institution's program and conducts semiannual reviews of both the animal care program and animal facilities, which are then reported to the IO. The following forms and guidelines are available on the CNU IACUC [webpage](#): Methods for reporting, investigating animal care and welfare, procedures for review, approval and suspension of animal activities and for special procedures (i.e., "Whistleblower Policy" and "Protocol Review Process"), procedures for review and approval of changes to approved activities (i.e., "Protocol Amendment and Modification Procedures").

Additionally, guidelines and appropriate forms have been established in relation to "Membership & Meetings," "Transport of Animals on Campus," "Transfer of Animals between Approved Protocols," and "Animal Care Facility Visitation Policy."

### 6. ***IACUC Training***

In relation to IACUC members, training is in place for legislation, guidelines and policies, how to inspect facilities and laboratories, and how to review protocols and the program. The IACUC Vice-Chair is responsible for implementing IACUC's training program and maintains records of training completed by IACUC members, vertebrate animal researchers, and student researchers. These records include administrative training in the form of CITI Training online training modules and an in-person orientation session held by the Vice-Chair. In-person training sessions held by the Vice Chair occurs once an academic year for faculty and staff and 2-3 times an academic year for students. In-person training is valid for 3 years. A form is available for PIs to document training of students/staff listed on their approved protocol(s) and personnel amendment(s). These training procedures have been approved by the IO.

### 7. ***IACUC Records and Reporting Requirements***

The IACUC submits a semiannual report to the IO every six months that documents the program review and facility inspection results, minority views, distinguishes between significant and minor deficiencies and includes a plan and schedule for correction of each deficiency. One departure from



*The Guide* is that food and bedding are stored in a room that was not intended to be a feed/bedding storage area. However, animal care staff carefully monitors the room's temperature and humidity, and runs an active surveillance program in this area to ensure that the feed and bedding are not affected by pests. As CNU is not PHS assured the IACUC does not report to OLAW. Since CNU is USDA assured, CNU's assurance is up to date and annual reports are submitted by the IO.

## **8. *Veterinary Care***

The IACUC fulfills the requirement of having an American College of Laboratory Animal Medicine (ACLAM) board-certified attending veterinarian with training and experience in lab animal medicine and an alternate veterinarian supplied by SoBran, Inc. The veterinarian has access to all animal areas, including satellite locations outside the animal facility. The veterinarian is delegated to oversee all aspects of animal care and use, provides consultation when animals are in distress, pain or when interventional control is not possible. Additionally, regular communication occurs between the veterinarian and IACUC (our AV attends every IACUC meeting and inspects the animals at least weekly), has experience working with species being used at CNU and has experience in facility administration and management.

## **9. *Personnel Qualifications and Training***

The IACUC has developed an organized and thorough training program as outlined in *The Guide* and by PHS. The IACUC Vice-Chair conducts training (e.g., IACUC orientation sessions) for IACUC members, faculty researchers and student researchers. The training program includes administrative training in the form of CITI Training online training modules and an in-person overview of the IACUC held by the Vice-Chair. The training record form also has sections for training performed by PIs in relation to their species-specific work. If requested, the animal care staff and AV are available to assist in all aspects of animal and personnel care and health. Training for all three groups (i.e., Students, Laboratory Researchers, and Field Researchers) occurred this year as described in Item 6 and IACUC plans to hold these sessions once/twice a semester depending on the needs of the different groups and changes in rules put forth by federal agencies. Training documentation is to be kept by the respective PIs. The required online CITI modules and internal IACUC Workshops provide training on methods for reporting concerns, humane practices of animal care and use, use of hazardous agents, the function of the IACUC, animal care and use legislation, the ethics of animal use, research methods that minimize numbers, pain or distress and the Three R's.

SoBran Inc., (the animal care staff) have continuing monitoring programs on the use of best practices for their staff.

## **10. *Occupational Health and Safety of Personnel***

Changing, washing, and showering facilities are available in the Animal Care Facility (ACF) and appropriate Personal Protective Equipment (PPE) are provided to all personnel working in the animal facility. Hazardous waste is contained in appropriate vessels and is separate from other areas in the animal facility. Waste anesthetics are scavenged through collection filters (f/air canisters) and fume hoods. In conjunction with the Office of Environmental Health and Safety (EHS), a program of occupational health and safety of personnel has been developed, consistent with federal, state and local regulations. The Health Risk Assessment Program (program for medical evaluation and preventive medicine for personnel and students) and Incident/Accident Forms cover all personnel, with a separate form for students. This has been approved by the IO, and initial Health Assessment Forms are available to animal researchers. A Health Assessment Waiver is in place for Visitors to the Animal Facility. Lastly, occupational health and safety of field studies are reviewed by EHS. IACUC is aware that CNU is in the process of hiring a new Environmental Health and Safety manager. We look forward to working with this individual once a hire is made.

### **11. *Personnel Security***

Preventative measures are in place for pre-employment screening (for CNU and SoBran, Inc. employees), physical and IT security. These include swipe card access to animal areas and fire proof glass for the Animal Care Facility.

### **12. *Investigating & Reporting Animal Welfare Concerns***

Methods for investigating and reporting animal welfare concerns are in place ("Whistleblower Policy"). Mechanisms for reporting concerns (by phone or email) are posted in the animal care facility and in all laboratories/classrooms that use vertebrate animals. The committee is still in the process of establishing an anonymous online Whistleblower Report Form.

## **B. Veterinary Care**

### **1. *Clinical Care and Management***

The IACUC finds the veterinary program offers a high quality of care and ethical standards and is appropriate for the animal care and use program at CNU. The AV (provided by SoBran, Inc.) provides guidance when requested on husbandry, animal care and treatment, and oversight of surgery. The AV is familiar with the species being used and procedures are in place to prioritize incident reports, report animal injury, illness or death and to address problems with procedures with the PIs. Procedures for establishing veterinary assessment, treatment, and euthanasia are in place and the AV is authorized to treat animals to relieve pain and/or euthanize when they see fit.

### **2. *Animal Procurement and Transportation/Preventative Medicine***

The veterinarian, in collaboration with the PIs and animal care staff, has established procedures for the lawful procurement of animals. These procedures ensure the animals have sufficient facilities, protocol approval occurs prior to procurement, and appropriate records of animal acquisition are maintained (including those obtained from the field). Procedures for animal transportation are in place to ensure safety, security and to minimize risk. This includes "Transport of Animals on Campus." Appropriate loading facilities are located next to the Animal Care Facility to minimize transit time. Further, species are separated from one another, a quarantine area is available in the Animal Care Facility, policies are in place for stabilization, acclimation, isolation and observation of sick animals and diagnostics are available for preventative health. An active animal health program is established that includes daily cage side health monitoring and a disease surveillance program.

### **3. *Surgery***

During the protocol review process, pre-surgical plans are developed with veterinary input if needed, including pre- and post-operative care, and monitoring of surgical anesthesia. Aseptic surgery is conducted in accordance with species-specific guidelines. Proper PPE is provided. Additionally a form for monitoring the health status after survival surgery is kept in the housing room for those animals. For aquatic species, skin surfaces are kept moist during procedures. During nonsurvival surgery, gloves, lab coat, and facemask are worn, and procedures are completed under a fume hood; the areas and surgical tools are kept clean.

### **4. *Pain, Distress, Anesthesia and Analgesia***

Guidelines for assessment and categorization of pain are considered during protocol review. Selection of analgesics and anesthetics, along with management of pain is done in conjunction with the AV. An approved list of analgesics and anesthetics for rodents, aquatics reptiles and amphibians is now posted to the IACUC website.

## 5. *Euthanasia*

Methods of euthanasia described in approved protocols are in accordance with AVMA and AWA guidelines and are approved by the AV and IACUC. Hands-on training on euthanasia and procedures to ensure death is confirmed are in place and can be certified by the AV and is also part of the PAM program.

## 6. *Drug Storage and Control*

Although not stored by the AV at CNU's Animal Care Facility, PIs with both state and federal drug licenses comply with federal and state regulations for acquiring, storing, and legally disposing of drugs. During facility inspections, expiration dates and drug logs are checked.

## **Semiannual Program Review Summary Report**

|   |
|---|
| <b>Meeting Date: December 11, 2018</b>                          |
| <b><u>IACUC Members in Attendance:</u></b>                      |
| Matthew Campolattaro (Chair, Psychology, Affiliated)<br>(b) (6) |
| Len Murray (Attending & IACUC Veterinarian)<br>(b) (6)          |
| <b><u>Support Staff in Attendance:</u></b><br>(b) (6)           |
| No deficiencies were found.                                     |



## Part II. Semiannual Facilities Inspections

### A. Terrestrial Animal Housing and Support Areas

#### 1. *Animal Care Facility, General Areas*

On 29 October 2019, (b) (6) and Len Murray conducted an inspection of the Animal Care Facility that houses Terrestrial Animals and Support Areas (mice and rats) at CNU.

The facility has animal areas separate from personnel area, and animals are separated by species and disease status. Appropriate signage, a whistleblower policy, and emergency contact numbers (for weekend and holidays as well) were easily accessible throughout the Animal Care Facility. Copies of all protocols, SDS, training records, sharps containers, as well as *The Guide* were all available. The corridors, animal room doors, exterior windows were either covered or shaded with appropriate coloring (red tinted windows). The ACF is accessible by card access only. The floors, drainage system, walls, ceilings, heating and air conditioning, power, lighting, noise, vibration control and environmental monitoring were all acceptable.

With regard to animal enclosures, the IACUC found no deficiencies. Housing for the rodents present met physiologic, behavioral and social needs. Rodents have secure environments with durable nontoxic materials, adequate bedding and flooring, procedures for husbandry are recorded in each housing room, cage heights are adequate and animals seemed to express natural postures without trouble. Filters have recently been changed in the rat cubicles.

Structures and resources for environmental enrichment are provided in the form of running wheels, nylabones, tunnels, treats and nesting materials. Enrichment is reviewed by the IACUC for each protocol. The animal care personnel have been trained to identify abnormal behaviors, stability of group housed animals is monitored on a daily basis, single housing is justified within approved protocols reviewed by the IACUC and AV, and adequate food, water and shelter are ensured.

The feeding schedule is recorded and animals are fed and provided water *ad libitum* unless otherwise approved by the IACUC. No fill dates were found on RO water bottles and no expiration date was found on the "Fruit Loops" container in the rat housing area. These issues are considered minor deficiencies. The feed and bedding is stored in sealed containers to prevent contamination, expiration dates are noted, and there is regular pest control and rotation of stocks. The vendor also supplies quality control numbers. The only exception from *The Guide* is that animal food is kept in an area that is not specifically designed for food storage; however the area is closely monitored by the animal care staff.

Bedding and nesting materials are species-appropriate and found to be acceptable. Sanitation and cage changes take place on regular intervals, waste disposal is controlled by the animal care staff and EHS, pest control occurs on a regular basis. All cages are appropriately labeled, clinical records and genetic records are kept in the personnel office and in housing rooms. Lastly, carcasses have a dedicated freezer that is hooked up to the backup power system. We recommend that the carcass freezer is emptied soon.

The ACF staff reported that humidity levels continue to reach levels outside of the acceptable range; however levels have recently stabilized during the past few weeks. Nevertheless, this issue is considered a minor deficiency. The ACF staff will continue to work with Plant Ops to help ensure that humidity levels are maintained within an acceptable range.

Two remote systems are used to monitor temperature and humidity throughout the facility. One system

was set up by the ACF staff and the other by Plant Operations. Both systems notify ACF personnel in the event that either measure is outside of the acceptable range.

## **2. Animal Care Facility, Mouse Area**

On 30 October 2018, (b) (6) conducted an inspection of the Clean Area of the Animal Care Facility. There are three rooms in the Clean Area of the Animal Care Facility; however, only room one was inspected as the other two are not in use at this time. The mouse procedure room, although not in use, was inspected on Oct 29 by Len Murray and (b) (6) and conditions were deemed appropriate. This Clean Area requires additional PPE to maintain specific pathogen-free conditions due to the housing of transgenic mice. The current mouse colony is managed by Dr. Lisa Webb and she was available to answer questions about the work conducted in this area. The area visited was the housing room in which mice are housed in individually ventilated cage (IVC) racks. All animals had access to appropriate enrichment and exhibited appropriate species-specific behaviors. Humidity levels were in normal range at the time of inspection; however humidity levels have recently been observed outside of the acceptable range. This issue is considered a minor deficiency. All cages were appropriately labeled. Clinical records and genetic records are kept by the PI and are located in the housing room.

## **B. Aquatic Animal Housing and Support Areas**

### **1. Comparative Psychology Laboratory**

On 29 October 2018, (b) (6) and Len Murray conducted an inspection of the Comparative Psychology Lab at CNU. At the time of the inspection, the PI, Dr. Velkey was present to answer questions. The animals housed in the facility included animals being used for teaching purposes (*betta splendens*) and to monitor water quality (goldfish). The room was acceptable in reference to location (separation of species, security and access control measures in place) and construction (room doors locked, exterior windows shaded, floors clean, drainage available, walls and ceilings in shape, no issues in HVAC, noise, power, lighting, and environmental monitoring).

Water quality standards acceptable with established guidelines and bioproducts are monitored. Water source is appropriate for species present and the biofilter is sufficient for animals present. There were no issues with the temperature, humidity, air quality, illumination, noise and vibration. The enclosures (tanks) allowed for normal physiological needs of the fish, allowed for social interaction of the goldfish, provided a balanced, stable environment, allowed access for food on a recorded schedule, allowed for undisturbed observation, were constructed of nontoxic materials, and no electrical hazards were present.

Enrichment elicited appropriate behaviors and was deemed safe, handling was kept to a minimum (dip caught or with a net when necessary) and nets were clean and disinfected when necessary. Sanitation and waste disposal were acceptable and pest control is scheduled regularly by the university. Emergency, weekend and holiday contact information was clearly displayed. Sanitation records now exist for the nets. Identification labels were on all tanks and recordkeeping for water quality and feeding were acceptable and the storage of supplies and food were all acceptable.

No deficiencies were found.

### **2. Flex Lab**

On 29 October 2018 (b) (6) and Len Murray conducted an inspection of the Flex Lab at CNU. The flex lab space is used by Dr. Velkey for research with *betta splendens* and zebrafish. We found that the space was well kept and prepared for a wide variety of animal experimentation. Dr. Velkey was

available to answer questions during the inspection.

The room was acceptable in reference to location (separation of species, security and access control means in place) and construction (room doors locked, exterior windows shaded, floors clean, drainage available, walls and ceilings in shape, no issues in HVAC, noise, power, lighting, and environmental monitoring).

Water source is appropriate for species present and the biofilter is sufficient for animals present. There were no issues with the temperature, humidity, air quality, illumination, noise and vibration.

The enclosures (tanks) allowed for normal physiological needs of the fish, allowed for social interaction of the zebrafish, provided a balanced, stable environment, allowed access for food on a recorded schedule, allowed for undisturbed observation, were constructed of nontoxic materials, and no electrical hazards were present. Some of the metal clips on the water mazes were rusted, and it was recommended that they be replaced. Dr. Velkey plans to replace the rusted clips during the winter break. This issue is considered a minor deficiency.

Enrichment elicited appropriate behaviors and was deemed safe, handling was kept to a minimum (dip caught or with a net when necessary) and nets were clean and disinfected when necessary. Food storage was acceptable, and was nutritional for the animals. Sanitation and waste disposal were acceptable and pest control is scheduled regularly by the university. Emergency, weekend and holiday contact information was clearly displayed.

Identification labels were on all tanks. In response to the last report, records are now kept for sterilization of nets.

### 3. *Biology Research Lab 2*

On 29 October 2018, (b) (6) conducted an inspection of Biology Research Lab 2 at CNU. The space is used by (b) (6) for research with mummichogs. We found that the space was suitable for animal housing and experimentation. (b) (6) was available to speak with us about the ongoing work in the lab.

The room was acceptable in reference to location (separation of species, security and access control means in place) and construction (room doors locked, exterior windows shaded, floors clean, drainage available, walls and ceilings in shape, no issues in HVAC, noise, power, lighting, and environmental monitoring).

Water quality and handling of chemical bioproducts meets acceptable standards. Water quality records are kept on one of the lab benches in an easily accessible binder. There were no issues with the temperature, humidity, air quality, illumination, noise and vibration.

The enclosures (tanks) allowed for normal physiological needs of the fish, allowed for social interaction of the mummichogs, provided a balanced, stable environment, allowed access for food on a recorded schedule, allowed for undisturbed observation, were constructed of nontoxic materials, and no electrical hazards were present.

Enrichment elicited appropriate behaviors and was deemed safe, handling was kept to a minimum (dip caught or with a net when necessary) and nets were clean and disinfected when necessary. Food storage was acceptable and nutritional for the animals. Sanitation and waste disposal were acceptable and pest control is scheduled regularly by the university. Emergency, weekend and holiday contact



information was clearly displayed.

No deficiencies were found.

#### **4. Research Lab 2**

On 30 October 2018, (b) (6) Matthew Campolattaro conducted an inspection of Research Lab 2 at CNU. Research lab 2 is connected to the animal care facility and (b) (6) uses this room for zebrafish housing and behavioral studies. (b) (6) was available to answer all questions and discuss the various projects ongoing in the lab. There were also students present running a trial of an approved protocol and all was in compliance with the approved protocol.

The room was acceptable in reference to location (separation of species, security and access control means in place) and construction (room doors locked, exterior windows shaded, floors clean, drainage available, walls and ceilings in shape, no issues in HVAC, noise, power, lighting, and environmental monitoring).

Water quality records are kept in a binder on a nearby bench. Water quality and source is appropriate for species present and the biofilter is sufficient for animals present. There were no issues with the temperature, humidity, air quality, illumination, noise and vibration.

The enclosures (tanks) allowed for normal physiological needs of the fish, allowed for social interaction of the zebrafish, provided a balanced, stable environment, allowed access for food on a recorded schedule, allowed for undisturbed observation, and were constructed of nontoxic materials.

Enrichment elicited appropriate behaviors and was deemed safe, handling was kept to a minimum and nets were clean and disinfected when necessary. Food storage was acceptable, and was nutritional for the animals. Sanitation and waste disposal were acceptable and pest control is scheduled regularly by the animal care facility. Emergency, weekend and holiday contact information was clearly displayed.

No deficiencies were found.

#### **C. Cagewash**

Inspection of the Cagewash area took place on 29 October 2018 by (b) (6) and Len Murray. The construction and operation of the area were acceptable: a dedicated area for sanitizing cages and equipment, convenient to animal areas/waste disposal, ease of access (sliding automatic doors), sufficient space for staging and maneuvering, safety precautions/clothing/equipment, traffic flow separate from clean area, insulation and attenuation of sound, appropriate utilities, safety features present (eyewash, warning signs, SOPs in ACF office), functioning safety devices, cage wash temperatures monitored and recorded.

No deficiencies were found.

#### **D. Special Facilities: Aseptic Surgery**

The surgical area was inspected on 29 October 2019 by (b) (6) and Len Murray and also on 30 October 2018 by (b) (6). Aseptic surgery of rodents occurs in a dedicated surgical suite in the Animal Care Facility. This room is used by Dr. Matthew Campolattaro and (b) (6) for survival surgeries on rats. The surgical area is in a minimal traffic area, there is safe sharps disposal, and adequate records of anesthesia of perioperative care are kept. The operation room (surgical suite) has effective decontamination control procedures, dedicated tools, smooth surfaces that seem impervious to moisture and safe lighting and power outlets. An expired bottle of optical ointment

was found during the inspection, which has since been discarded. This issue is considered a minor deficiency. F/air canisters are used to scavenge isoflurane gas. Surgical support exists in available autoclaving and facilities for cleaning surgical tools. The ACF does not have an animal preparation area or surgical scrub area, as this is not necessary for rodent surgery. Postoperative recovery is implemented by the PI according to procedures in approved IACUC protocols and there is an area in the ACF for personnel to change clothing.

## **E. Special Facilities: Procedure Areas, Non-survival Surgeries, Laboratories, Rodent Surgeries, Imaging, Whole Body Irradiation, Hazardous Agent Containment, Behavioral Studies**

### **1. Research Lab 1**

On 29 October 2018, (b) (6) conducted an inspection of Research Lab 1. The IACUC inspected Research Lab 1, adjoined to the Animal Care Facility and used by (b) (6) to perform non-survival surgery in the form of transcardial perfusions under the fume hood for her various protocols. (b) (6) was available to answer any questions. Animals are only brought into the lab when scientifically required. Drug storage, expiration dates, sharps disposal, and safety features (including eyewash and safety signs) were all in place. Carcass disposal is completed in accordance with approved IACUC protocols and EHS requirements.

Hazardous agents are contained in the appropriate ways and are disposed of in accordance with EHS requirements.

No survival surgery, imaging, or behavioral studies take place in this laboratory.

No deficiencies were found.

### **2. Research Lab 3**

On 30 October 2018, (b) (6) conducted an inspection of Research Lab 3 at CNU. Research lab 3 is connected to the Animal Care Facility and Dr. Campolattaro uses his lab space for behavioral and electrophysiological studies with rats. However, no rats were currently in the lab. Dr. Campolattaro was there to answer all questions and describe his current projects.

The rats only come into the facility for study purposes. Drug storage, control and expiration dates were acceptable. Proper sharps disposal, safety sign, eyewash station, emergency contact numbers and the whistleblower policy were available. Survival surgery by this investigator only takes place in the ACF Surgical Suite, but he maintains records of peri- and post-operative care in the lab space as well. Autoclave and autoclaving monitoring procedures were present. The room minimizes airborne transmission of noise and vibration. The behavioral equipment allows for surface disinfection. Hazardous agents were contained in appropriate storage cabinets and containers. No survival surgery or imaging take place here.

No deficiencies were found.

## Semiannual Facility Inspection Summary Report

**Inspection Dates: October 29 and 30, 2018**

**Member(s) in Attendance:**

*Matthew Campolattaro* (Chair, Psychology, Affiliated): October 30, 2018

(b) (6)

*Len Murray* (Attending & IACUC Veterinarian): October 29, 2018

(b) (6)

**Designee(s) in Attendance:**

*Emily Vann* (Animal Facilities Manager, non-voting): October 29, 2018

| Deficiency Category*                       | ✓      | Location | Deficiency and Plan for Correction   | Responsible Party | Correction Schedule and Interim Status              | Date Complete  |
|--|--------|----------|--|-------------------|---|--|
| Terrestrial Animal Housing & Support Areas | M      | (b) (4)  | Fill dates were missing on RO water bottles. Each RO bottle needs to be labeled with an appropriate fill date.   | (b) (6)           | To be completed by 1/7/19                           | N/A  |
| Terrestrial Animal Housing & Support Areas | M      | (b) (4)  | No expiration date was found on the "Fruit Loop" container. An expiration date needs to be clearly marked on the container.  | (b) (6)           | Indicate expiration date on the container by 1/7/19 | The container was marked with an expiration date on 11/29/2018 |
| Terrestrial Animal Housing & Support Areas | M<br>✓ | (b) (4)  | The regulation of humidity levels continues to be an issue in the ACF. Although the boiler has been replaced, the ACF staff continues to report issues with maintaining humidity within acceptable ranges. | (b) (6)           | Actively being monitored by the facility manager    | On-going   |
| Aquatic Animal Housing and Support         | M      | (b) (4)  | Rusted clips on some watermazes need to be replaced with non-rusted clips.   | Dr. Velkey        | Dr. Velkey will replace the rusted clips by 1/7/19  | N/A  |
| Special Facilities: Aseptic Surgery        | M      | (b) (4)  | A bottle of expired eye ointment was found and needs to be discarded.  | Dr. Campolattaro  | Discard item by 1/7/19                              | Item was discarded on 11/1/18                                  |

- \* A = acceptable  
 M = minor deficiency  
 S = significant deficiency (is or may be a threat to animal health or safety)  
 C = change in program (PHS Policy [IV.A.1.a-i.](#)) (include in semiannual report to IO and in annual report to OLAW)  
 NA = not applicable  
 ✓ Check if repeat deficiency

### Part III. Names and Signatures of Current IACUC Members (Signature Indicates Approval of the Report\*)

(b) (6)

Dr. Matthew Campolunaro (Chair, Psychology, Affiliated)

(b) (6)

Dr. Len Murray (Attending Veterinarian)

(b) (6)

\*Note: No dissenting minority reports were reported