**Georgia State University**
**Institutional Animal Care and Use Committee Meeting**
**Friday, October 26, 2018 11:00 AM**
**Meeting Minutes**

**Members Present:** Dr. Ignatowicz, Dr. Hart, Dr. Petrulis, Dr. Song, Dr. Beran, Dr. Xue, Dr. Roseberry, Dr. Tsai and Ms. Roberts (on the phone)

**Members Absent:** Mrs. Summerville, Dr. Plemper, Dr. Attanasio and Dr. Denning

**Alternative Member Present:** Dr. Wilkes (vote did not count)

**Ex-Officio Member Present:** Ms. Chapman

**Liaison, EX-Officio Member to the Committee Present:** Ms. Kilcullen-Steiner

**IACUC/IBC Compliance Officer Present**: Ms. Brinsfield

**Guest Present**: Danielle Daniely, Director RES and HCC

**Call to Order:**

Dr. Ignatowicz convened the meeting at approximately 11:02 AM when a quorum was present in

**I. Conflict of Interest Declaration**

The Conflict of Interest Declaration was emailed to the committee members and discussed at the meeting. Whenever a committee member departs the room due to a conflict of interest, it will be annotated in the "**VOTES"** section.

**II. Meeting Minutes Review**

The September 28, 2018 meeting minutes were sent, via email, to all the members prior to the meeting.

**Motion:** A motion was made and seconded to approve the meeting minutes as presented There was no further discussion. All members present voted:

**Votes:** For: 9 Against: 0 Abstain: 0

**III. Protocol Reviews**

**Electronic copies of the protocols were available to IACUC members prior to the meeting.**

**A. Protocol: A19011**
**Title:** Outdoor Research Facility Study

**Summary**: Inflammatory bowel disease (IBD), which includes Crohn's disease and ulcerative colitis, is characterized by chronic inflammation of the intestine and affects nearly 3 million Americans. The exact causes of IBD are unknown, but disease pathogenesis is believed to be influenced by genetic predisposition, immunologic reactivity, microbiota composition, and environmental exposure. This is a pilot study to investigate how environmental exposure alters the intestinal immune system and gut microbiota of mice in the steady state. Future studies will extend these initial observations to test the influence of environment on experimental models of intestinal inflammation. Environmental exposure will be accomplished by housing mice outdoors in the
designed to prevent escape of research mice as well as entry of predators or other intruders.

**All reviewers indicated on their review forms that the submission could be approved as submitted.**

**Motion:** A motion was made and seconded to approve the protocol as submitted. There was no further discussion. All members present voted:

**Votes:** For: 9 Against: 0 Abstain: 0

## IV. Consent Agenda

**1. Post Approval Monitoring**
a. PAM Progress Summary

**2. LRC Updates**
a. LRC report- Nothing to report

**3. Census Report**
a. October 2018 Census provided

**4. Injury Report**
a. Injury no report provided.

**5. IACUC Member Training-**
a. Field studies and the IACUC: Protocol review, oversight, and occupation health and safety considerations. Lab Animal 36(1): 27-33 February 2007
b. OLAW.NIH FAQ-Oversight of Research Involving Wildlife- March 20, 2014 https://olaw.nih.gov/education/educational-resources/webinar-2014-03-20.htm
c. OLAW.NIH-FAQ's: https://olaw.nih.gov/guidance/faqs#A A6 and E4 on Wildlife Studies

**6. IACUC Guidelines for Review**
**a**. Aseptic Technique for Animal Surgery Guideline
**b**. Monitoring Biological Materials Guideline

**Motion:** A motion was made and seconded to approve the consent agenda. There was no further discussion. All members present voted:

**Votes:** For: 9 Against: 0 Abstain: 0

## V. New Business/Reports

1. **Non-Compliance/Adverse event – (Anonymous Website Report)-Dr. Ignatowicz**
   The IACUC received an anonymous report of a lab's possible failure to adhere to IACUC humane endpoints. The DAR veterinary staff discussed the concern with the PI and reported that the lab is now adhering to IACUC approved humane endpoints. There are no additional concerns. The PI will be notified that no further action is required.

2. **New LRC SOP for review- Drs. Hart and Wilkes**
   1. SOP # 021.00 Outdoor Research Facility- The new SOP was discussed. No concerns with the document.

   **Motion:** A motion was made and seconded to approve the new SOP. There was no further discussion. All members present voted:

   **Votes:** For: 9 Against: 0 Abstain: 0

3. **Semiannual Programmatic Review- Mrs. Kilcullen-Steiner and Vets**
   The IACUC Semiannual Programmatic Review was conducted. No changes were requested from the last review.

   **Motion:** A motion was made and seconded to approve the Semiannual Programmatic Review as submitted. There was no further discussion. All members present voted:

   **Votes:** For: 9 Against: 0 Abstain: 0

4. **October 2018 Inspection Findings- Mrs. Kilcullen-Steiner**
   The inspection findings were presented and discussed. There were no concerns with the document.

   **Motion:** A motion was made and seconded to approve the Semiannual Inspection Findings as submitted. There was no further discussion. All members present voted:

   **Votes:** For: 9 Against: 0 Abstain: 0

5. **iMedRis Update- Mrs. Kilcullen-Steiner**
   The requested revisions to the IACUC forms in iRIS are almost complete. Branching for the Alternative section is still not complete.

**Adjournment**

Dr. Ignatowicz adjourned the meeting at 12:29 PM.

Respectfully submitted by Ms. Brinsfield

## INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MONTHLY MEETING

### ATTENDANCE LOG RECORD

### DATE: 10/25/2018

| Attendance Record: | | |
|---|---|---|
| **Print Name** | **Signature** | **Arrival/Departure** |
| Roberta Attanasio | | |
| Michael Beran | | 10:56 / 12:32 |
| Timothy Denning | | |
| Michael Hart | | 10:58 / 12:32 |
| Leszek Ignatowicz | | 10.40 / 12:32 |
| Aras Petrulis | | 10:50 – 12:30 |
| Richard Plemper | | |
| Cynthia Roberts | via phone | 11:01 / 12:32 |
| Aaron Roseberry | | 11:00 / 12:32 |
| Ping Song | | 10:52 / 12:35 |
| Kay Lee Summerville | | |
| Liang-Ching Tsai | | 10:59 / 12:32 |
| Bingzhon Xue | | 11:05 / 12:35 |
| **Alternate:** Amelia Wilkes (for Vet) | | 10:59 |
| | | |
| ExOfficio: Dr. Weyhenmeyer | | |
| ExOfficio: Casey Kilcullen-Steiner | | 10:40 |
| ExOfficio: Betsy Butler | | 10:50 |
| ExOfficio: Brenda Chapman | | |
| Compliance Officer: Casey Brinsfield | | 10:00 |
| Administrative Assistant: Ravi Gandhi | | |
| | | |
| **GUEST:** Dean Blake | | |
| **GUEST:** Danielle Daniely | | 11:00 12:35 |
| **GUEST:** | | |

Alternates should sign their names if they are representing an absent Voting member and voting in their place. Consultants and Visitors should print their names and sign the log marking arrival and departure times as well

**Georgia State University**
**Institutional Animal Care and Use Committee Meeting**
**Friday, September 28, 2018 11:00 AM**
**Meeting Minutes**

**Members Present:** Dr. Plemper, Dr. Ignatowicz, Dr. Hart, Dr. Petrulis, Dr. Denning, Dr. Song, Dr. Beran, Dr. Roseberry, Dr. Attanasio, Dr. Tsai and Ms. Roberts

**Members Absent:** Mrs. Summerville and Dr. Xue

**Alternative Member Present:** Dr. Wilkes (vote did not count)

**Ex-Officio Member Present:** Ms. Chapman

**Liaison, EX-Officio Member to the Committee Not Present:** Ms. Kilcullen-Steiner

**IACUC/IBC Compliance Officer Present**: Ms. Brinsfield

**Call to Order:**

Dr. Plemper convened the meeting at approximately 11:00 AM when a quorum was present in

I. **Conflict of Interest Declaration**

The Conflict of Interest Declaration was emailed to the committee members and discussed at the meeting. Whenever a committee member departs the room due to a conflict of interest, it will be annotated in the "**VOTES**" section.

II. **Meeting Minutes Review**

The August 24, 2018 meeting minutes were sent, via email, to all the members prior to the meeting.

**Motion:** A motion was made and seconded to approve the meeting minutes as presented There was no further discussion. All members present voted:

**Votes:** For: 10 Against: 0 Abstain: 0

*One member entered after the vote.*

III. **Protocol and Amendment Reviews**

**Electronic copies of the protocols and amendments were available to IACUC members prior to the meeting.**

**A. Protocol: A18067**
**Title:** Altered CNS Intercellular Signaling Mechanisms in Cardiometabolic Disease (Mice)

**Summary:** Cardiovascular diseases, including hypertension, stroke, heart failure, and diabetes continue to be the number one killer in the United States. Despite this fact, little is known about the precise factors that lead to these disorders. The renin-angiotensin system is one of the key signaling mechanisms in the brain that contributes to altered neuronal activity in cardiovascular diseases. This pilot study will use mice models generated by the University of Florida, that express channelrhodpsins (along with fluorescent reporters) in angiotensin AT1 receptor expressing brain neurons. Our lab will perform in vitro slice recordings as an approach that will enable identification of the specific subset of neurons and monitor the electrical activity to determine the consequences of the activation (photo-stimulation of channelrhodopsines) at the neuronal circuit level.

- **No revisions are requested for the protocol.**

**Motion:** A motion was made and seconded to approve the protocol as submitted. There was no further discussion. All members present voted:

**Votes:** For: 11 Against: 0 Abstain: 0

**B. Protocol Amendment: A17026**

**Title:** Protein Agents Promote Wound Healing and Tissue Regenerations Amendment (Reference # 332363)

**Summary**: Immunological response greatly affects wound healing and the fibrosis process. Currently approved euthanasia method, by CO2, affect immune cells. To study the effects of the treatments on changes of immunological responses at the wound site during wound healing and fibrosis progression, it has been requested to add mouse euthanasia by Cervical dislocation in an awake animal.

**11.0 Method(s) of Euthanasia**

**11.1 Describe in detail all the methods of euthanasia (if any) you will use. If the method involves the use of pharmaceuticals, please specify agent, dose, and route of administration.**

- Section 11.1, it is recommended to use isoflurane anesthesia as an alternative method of euthanasia. The articles which you have referenced discuss the potential variables of the immunological/hematological parameters using carbon dioxide, pentobarbital, halothane, or methoxyflurane as a method of euthanasia. However, there is no discussion of any potential adverse effects of isoflurane. Please note that isoflurane is recommended as it is less invasive and has a smaller margin of technical error than cervical dislocation method of euthanasia.

**Motion:** A motion was made and seconded to withhold approval of the amendment request. There was no further discussion. All members present voted:

**Votes:** For: 11 Against: 0 Abstain: 0

**C. Approved Protocol called for Full Committee Review (for Cervical Dislocation Method of Euthanasia in Awake Mice): A18011**

**Title:** Development of Protein Based Cancer Therapy Agents

**Summary**: Immunological response greatly affect wound healing and the fibrosis process. Currently approved euthanasia method, by CO2, affects immune cells. To study the effects of the treatments on changes of immunological responses at the wound site during wound healing and fibrosis progression, it has been requested to add mouse euthanasia by Cervical dislocation in an awake animal.

**12.0 Method(s) of Euthanasia**

**12.1 Describe in detail all the methods of euthanasia (if any) you will use. If the method involves the use of pharmaceuticals, please specify agent, dose, and route of administration.**

- Section 12.1, Cervical dislocation in an awake animal justification is not sufficiently justified based on 2 papers of questionable relevance that are 18 and 19 years old.

**Motion:** A motion was made and seconded to remove the procedure of cervical dislocation euthanasia in awake animals. There was no further discussion. All members present voted:

**Votes:** For: 11 Against: 0 Abstain: 0

## IV. Consent Agenda

**1. Post Approval Monitoring**
a. PAM Progress Summary

**2. LRC Updates**
a. Report provided

**3. Census Report**
a. August 2018 Census provided

**4. Injury Report**
a. Injury report provided.

**5. IACUC Member Training**- OLAW Commentary Protocol Review: *Amendment submitted; protocol reviewed?* Lab Animal Vol 41, No. 11 November 2012.

**6. DAR SOP's for review with changes**
**a**. SOP 049.02 Rodent Husbandry
**b**. SOP 052.02 Sentinel Sampling
**c**. SOP 064.00 Cotton Rats
**d**. SOP 092.01 Transportation to-from RSC
**e**. SOP 012.01 Animal Emergency Medical Care
**f**. SOP 014.02 Animal Preventative Medical Care

**7. IACUC Policies for review with changes**
**a**. Animal Transportation Guideline
**b**. Medical and Research Records Guideline
**c**. Overcrowded Cages Guideline
**d**. Rectal Prolapse Guideline
**e**. Rodent Genotyping and Identification Policy and SOP
**f**. Surgical Procedures Description and Guidance
**g**. Weight loss as an Endpoint Policy

**8. IACUC Policies for review without changes**

**a**. Trio Breeding Policy
**b**. Weaning Mice Policy

**Motion:** A motion was made and seconded to approve the consent agenda. There was no further discussion. All members present voted:
**Votes:** For: 11 Against: 0 Abstain: 0

## V. New Business/Reports

1. **Non-Compliance/Adverse event – (None)-Dr. Plemper**

2. **New IACUC Guideline (Ferret Housing) for Review and Approval-**

   The Ferret Housing guideline was discussed. No concerns with the document.

   **Motion:** A motion was made and seconded to approve the new Ferret Housing IACUC Guideline. There was no further discussion. All members present voted:
   **Votes:** For: 11 Against: 0 Abstain: 0

3. **iMedRis Update-**
   An outside contractor has begun work on the requested revisions. A date of completion could not be confirmed, but work is actively being done and is expected to be completed soon.

4. **IACUC Semiannual Inspection Signup-**
   IACUC members signed up for semi-annual facility inspections.

**Adjournment**
Dr. Plemper adjourned the meeting at 11:45 AM.

Respectfully submitted by

# INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MONTHLY MEETING

## ATTENDANCE LOG RECORD

## DATE: 9/28/2018

| Attendance Record: | | |
|---|---|---|
| **Print Name** | **Signature** | **Arrival/Departure** |
| Roberta Atanasio | | 10:50 – 11:50 |
| Michael Beran | | 10:50 |
| Timothy Denning | | 10:45 |
| Michael Hart | | 10:55 / 11:50 |
| Leszek Ignatowicz | | 10:50 |
| Aras Petrulis | | 10:55 |
| Richard Plemper | | 10:57 / 11:45 |
| Cynthia Roberts | | 11:05 |
| Aaron Roseberry | | 11:00 11:45 |
| Ping Song | | 10:52 am / 12:00 pm |
| Kay Lee Summerville | | |
| Liang-Ching Tsai | | 10:50 |
| Bingzhon Xue | | |
| **Alternate:** Amelia Wilkes (for Vet) | | 10:52 |
| ExOfficio: Dr. Weyhenmeyer | | |
| ExOfficio: Casey Kilcullen-Steiner | | |
| ExOfficio: Betsy Butler | | |
| ExOfficio: Brenda Chapman | | |
| Compliance Officer: Casey Brinsfield | | |
| Administrative Assistant: Ravi Gandhi | | |
| **GUEST:** Dean Blake | | 11:00 |
| **GUEST:** | | |
| **GUEST:** | | |

Alternates should sign their names if they are representing an absent Voting member and voting in their place. Consultants and Visitors should print their names and sign the log marking arrival and departure times as well

**Georgia State University**
**Institutional Animal Care and Use Committee Meeting**
**Friday, August 24, 2018 11:00 AM**
**Meeting Minutes**

**Members Present:** Dr. Plemper, Dr. Ignatowicz, Dr. Hart, Dr. Petrulis, Dr. Denning, Dr. Song, Dr. Beran, Dr. Xue, Dr. Roseberry, Mrs. Summerville and Dr. Attanasio.

**Members Absent:** Dr. Tsai and Ms. Roberts

**Alternative Member Present:** Dr. Wilkes (vote did not count)

**Ex-Officio Member Present:** Ms. Chapman

**Liaison, EX-Officio Member to the Committee Present:** Ms. Kilcullen-Steiner

**IACUC/IBC Compliance Officer Present**: Ms. Brinsfield

**Call to Order:**

Dr. Plemper convened the meeting at approximately 11:01 AM when a quorum was present in

I. **Conflict of Interest Declaration**

The Conflict of Interest Declaration was emailed to the committee members and discussed at the meeting. Whenever a committee member departs the room due to a conflict of interest, it will be annotated in the "**VOTES**" section.

II. **Meeting Minutes Review**

The July 27, 2018 meeting minutes were sent, via email, to all the members prior to the meeting.

**Motion:** A motion was made and seconded to approve the meeting minutes as presented There was no further discussion. All members present voted:

**Votes:** For: 9 Against: 0 Abstain: 2

III. **Protocol Reviews**

**Electronic copies of the protocols were available to IACUC members prior to the meeting.**

**A. Protocol: A18067**

**Title:** Pathogenesis and Translational study of Otitis Media

**Summary:** Otitis media (OM) is the most common childhood bacterial infection and the leading cause of conductive hearing loss in children. The objectives of the proposed studies are to fully understand how mucus production, inflammatory response and host innate

immune response are tightly regulated in the pathogenesis of respiratory infectious diseases including OM. The interest is in identifying key positive and negative regulators in mucus production, inflammatory response and host innate immune response. The information gained will be used to evaluate the therapeutic potential of targeting these pathways by using various chemical regulators in comparison to conventional therapies.

- Section 7.1, discuss why no studies were performed during the previous 3-year cycle and what has changed such that studies will finally be performed under this new protocol.
- Section 9.5, a lower body temperature limit is defined, define the upper temperature limit.
- Section 9.5, with infection chinchillas should have elevated, not suppressed, body temperature.
- Section 10.4, the question is not seeking alternatives, but confirmation that the proposed study will not duplicate previous work by you or a third party. Address the question.
- Section 13.3, provide a summary table(s) to make the animal number calculations transparent.
- Section 13.3, justify the duplication or remove the duplication of the 1 day and 5-day time point overlap between short term studies and long-term studies.
- Section 14.1, there is no need to copy number calculations from 13.3 over to 14.1. Provide overview tables in 13.3 as requested.
- Section 14.1, replace "mice" with "chinchilla" wherever it occurs in the narrative (i.e. IVIS section).
- Section 14.1, justify why numerous routes of antibiotics are needed.
- Section 21.1, note that isoflurane negatively affects IAV infection efficiency, ketamine would provide more consistent results.
- Section 22.3, specify "toe pinch" on all 4 paws.
- Section 24.3, justify why 3 routes of delivery are needed.
- Section 25.0, describe level of competency, not just number of years' experience of working with chinchillas.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 11 Against: 0 Abstain: 0

**B. Protocol: A19001**

**Title:** Shiga Toxin Producing Escherichia Coli Bind PMNs Resulting in Hemolytic Uremic Syndrome

**Summary:** This is a three-year renewal of a category E proposal from an established investigator. It will examine the development of hemolytic urea syndrome, which occurs secondary to bacterial induced intestinal inflammation arising from shiga toxin producing E Coli. After infection of the GI tract, the bacteria spread to the kidneys causing HUS, which has no treatment. In this protocol, HUS will be induced in 4 strains of mice by injecting

LPS and STx and the mice will be euthanized at varying time points to test for the progression of the disease. In subsequent studies, different blood products will be collected from HUS mice and each will be administered to new mice to see which may mediate the spread to the kidneys.

- Section 8.5, it is stated that peripheral blood draws will be done if mice show symptoms of anemia. Add the blood draws in the non-surgical procedures section.
- Section 8.5, indicate if anything can be done for the mice if they reach the point that would make it necessary to do the blood draws, or would the mice have already reached a humane endpoint?
- Section 8.5, describe what records will be kept and how often.
- Section 12.3, clarify the mouse numbers for the adoptive transfer and Ex Vivo Stx incubation experiments.
- Section 13.1, the high dose for the shiga toxin is 2X the lethal dose 50 (LD 50) for mice according to the IBC. Justify this dose and address the humane endpoints.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 11 Against: 0 Abstain: 0

**C. Protocol: A19002**

**Title:** Neurobiology of Social Behavior in Mice

**Summary:** This is a renewal of a research and breeding protocol with mice, with external support. These researchers have been working with hamsters to study how exposure to social conflict, especially social defeat, changes the brain and thus alters future behavior. There are not yet genetically modified hamsters that would allow asking questions about the molecular basis of the defeat-induced behavioral changes. Mice show similar behavioral responses to social defeat compared to hamsters and can offer the chance to test hypotheses about the molecular basis of stress-induced behavioral change. By understanding such changes, the researchers hope to suggest ways in which psychopathology in humans can be more effectively treated.

- Section 9.0, summary should mention the species used.
- Section 11.2, last search keyword should be "animal welfare and intracerebral microinjection".
- Section 11.4, explain the abbreviation of BDNF.
- Section 20.1, explain the purpose for the third tissue collection, considering that tissue from each mouse is also collected by tail snip.
- Section 21.1, indicate the maximum number of tests performed on single animal.
- Section 21.1, indicate if participation in one test (like Startle) can affect the result(s) of a test that will follow.
- Section 21.1, indicate if animals used for multiple tests rest between each test(s) and, if so, state the length of time.

- Section 21.1, change sentence to: " We will also employ a repeated defeat protocol...".
- Section 26.3, typo – Intracranial.
- Section 26.4, check "Injectables".
- Section 26.4, typo "Intracranial".
- Section 27.0, Magen Lord MMPVAE status not answered.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 11 Against: 0 Abstain: 0

**D. Protocol: A19003**

**Title:** Study of Obesity and Metabolic Diseases Using Mouse Models

**Summary:** Obesity results from excess energy storage as an imbalance between food intake and energy expenditure. Several metabolic-related tissues play important roles in regulating whole body energy homeostasis. The gastrointestinal (GI) system is involved in energy intake and absorption. White fat cells are responsible for storing excess energy as fat whereas brown fat cells are primarily involved in burning extra energy due to a unique molecule called "uncoupling protein 1". These peripheral tissues are innervated by both sensory and sympathetic nervous system, which regulates the function of these peripheral tissues. The main purpose of this protocol is to study the function of these peripheral tissues and the nerve innervation of these tissues in the regulation of whole body energy homeostasis.

- Section 10.5, clarify the frequency in which the surgery mice will be monitored for humane endpoints.
- Section 14.1, keep the mathematical justification of the 75K animals, but since it is stated in 14.3 that only about 30% of the animals will be used, reduce the number of animals needed to 30-50% of the stated total.
- Section 14.3, it is stated: "Although we have listed a large number of mice needed for the 3 years in this protocol, this number is based on the best case scenario and the assumption that we do every experiments with each of the mouse strain. However, when conduct the experiments, we will choose the strains and the experiments to be performs based on the data we obtain from the particular strain. Thus, we will not do every experiments using every strain listed. Thus, I estimate the actual number of animals to be used would be around ~30% of the total number listed here." Keep the mathematical justification of the 75K animals, but since it has been stated that only about 30% of the animals will be used, reduce the number of animals needed in section 14.1 to 30-50% of the stated total.
- Section 14.3, provide the scientific rationale for using both thermoneutral and "typical" housing environments.

- Section 14.3, experiment #2, correct the animal numbers in the description as the animal numbers have been updated in experiment #18 which list the animal numbers for each experimental procedure.
- Section 15.1, experiment #11, clarify the period of time the mice that have access to food will remain in the cooler.
- Section 20.1, correct the discrepancy with the maximum of times that IP injections will be performed.
- Section 23.1, procedure #7, state the duration, the maximum number of times and the minimum time interval that the mice will be housed in the thermoneutral condition.
- Section 24.6, clarify which surgeries will be performed more than once.
- Section 24.6, clarify the minimum time duration between major surgeries.
- Section 25.1, remove the reference to the Buprenorphine SR being administered every 12 hours in #2 surgery, as Buprenorphine SR should be administered every 72 hours, if necessary.
- Section 26.1, pharmaceutical grade substances should always be utilized, if available, unless there is scientific justification as to why the pharmaceutical grade substance cannot be used.
- Section 26.4, include Pseudorabies.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 10 Against: 0 Abstain: 0

*One member was not present during the vote and discussion of the protocol due to a conflict.*

**E. Protocol: A19004**

**Title:** A Guinea Pig model of Zika Virus Disease

**Summary:** To establish a guinea pig model of Zika virus infection. In contrast to mice, immunocompetent guinea pigs are susceptible to Zika virus infection. The model will be used to study in utero Zika virus infection, sexual transmission and Zika virus neurological disease. Pregnant guinea pigs will be inoculated with Zika virus, and clinical signs, pregnancy outcomes, and effects of infection on fetal loss, intrauterine development of the fetuses and brain injury examined. Specifically, at the end of pregnancy animals will be euthanized, brain, liver, and heart tissue extracted and subjected to sectioning and preparation of total protein and RNA.

- Section 13.3, provide a form for the justification of animal numbers.
- Section 13.3, state if the same studies be repeated 3 times over the three years. If not, justify/clarify why the total animal number was multiplied by 3.
- Section 17.1, describe the maximum number of times this procedure will be performed on a given animal, not the number of times per week.

- Section 21.0, check "other non-surgical procedure not listed" to account for the conduct of the intravaginal administration.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:
**Votes:** For: 11 Against: 0 Abstain: 0

**F. Protocol: A19005**
**Title:** Defining the Function of Schlafen4 in the Pathogenesis of Flavivirus Encephalitis
**Summary:** West Nile virus (WNV) and Japanese Encephalitis Virus (JEV) are important human pathogens that target neurons to cause potentially lethal encephalitis in almost 20% of febrile patients. These viruses are classified in the genus Flavivirus. Currently there is no vaccine or treatment available for WNV and JEV-associated encephalitis in humans. Previously identified various host genes (Schafen4, Alpha-macroglobulins, Z-DNA Binding Protein-1) play a critical role in WNV and JEV replication. The study will use wild-type and transgenic mice (Schafen4, Alpha-macroglobulins, Z-DNA Binding Protein-1) to understand the mechanisms of CNS disease induced by flavivirus infection.

**Motion:** A motion was made and seconded to approve the protocol as submitted. There was no further discussion. All members present voted:
**Votes:** For: 11 Against: 0 Abstain: 0

**G. Protocol: A19007**
**Title:** Production of Polysaccharide-Protein Conjugates as Vaccines
**Summary:** There are countless bacterial pathogens that cause disease in humans. Vaccines allow for reduction and potential eradication of such diseases. The proposed work is aiming at solving an unmet biomedical need in the development of vaccines. Surface-located Polysaccharides (PSs) of bacteria have great potentials to be used as vaccines for preventing bacterial infections. This protocol aims to produce a series of polysaccharide-protein (PS-Protein) conjugates vaccines with the goal of finding better protective vaccines than current conventional approaches can offer.

- Section 9.2, the search term "Mice Vaccine Injection Alternative" returns many hits that need to be briefly summarized.
- Section 11.3 provide an exact reason as to why animals must be used for these experiments.
- Section 12.3, 240 BALB/C mice for experiment is indicated, which is different from 280 requested in Section 12.1.
- Section 12.3, the request for 40 mice (to cover training and mortality) has been removed from this most recent version of the protocol. It is recommended to provide at least 10 animals for training purposes and include a minimum number of animals for potential animal losses.
- Section 17.1, select "Pharmaceutical Grade" for the PBS.

- Section 17.3, provide the full name for the acronym MBP.
- Section 18.0, provide a qualitative statement about degree of proficiency with listed procedures.

**Motion:** A motion was made and seconded to approve the protocol as submitted. There was no further discussion. All members present voted:

**Votes:** For: 11 Against: 0 Abstain: 0

## IV. Consent Agenda

**1. Post Approval Monitoring**
a. PAM Progress Summary

**3. LRC Updates**
a. Report provided

**4. Census Report**
a. August 2018 Census provided

**5. Injury Report**
a. Injury report provided.

## V. New Business/Reports

**1. Non-Compliance/Adverse event – (None)-Dr. Plemper**

**2. iMedRis Update- Dr. Plemper**
Committee was notified that all remaining iRIS fixes will be outsourced to an outside contractor. The senior IT staff member responsible for iRIS, is no longer employed by the university.

**3. IACUC Member Training- Ms. Brinsfield**
IACUC Member iRIS Training conducted.

## Adjournment

Dr. Plemper adjourned the meeting at 12:42 PM.

Respectfully submitted by Ms. Brinsfield

## INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MONTHLY MEETING

## ATTENDANCE LOG RECORD

## DATE: 8/24/2018

**Attendance Record:**

| Print Name | Signature | Arrival/Departure |
|---|---|---|
| Roberta Attanasio | | 10:54 / 2:00 |
| Michael Beran | | 10:55 |
| Timothy Denning | | 10:50 / 12:41 |
| Michael Hart | | 10:50 / 12:45 |
| Leszek Ignatowicz | | 10-55 |
| Aras Petrulis | | 10-55 / 12:46 |
| Richard Plemper | | 10:55 / 12:50 |
| Cynthia Roberts | | |
| Aaron Roseberry | | 10:59 12:45 |
| Ping Song | | 10:54 12:46 |
| Kay Lee Summerville | | 10:55 |
| Lang-Ching Tsai | | |
| Bingzhon Xue | | 11:05 / 1:10 |
| **Alternate:** Amelia Wilkes (for Vet) | | 11:00 |
| ExOfficio: Dr. Weyhenmeyer | | |
| ExOfficio: Casey Kilcullen-Steiner | | 11:48 / 12:50 |
| ExOfficio: Betsy Butler | | 11:00 |
| ExOfficio: Brenda Chapman | | |
| Compliance Officer: Casey Brinsfield | | 1015 |
| Administrative Assistant: Ravi Gandhi | | |
| **GUEST:** Dean Blake | | 11:02 1:00 |
| **GUEST:** | | |
| **GUEST:** | | |

**Alternates should sign their names if they are representing an absent Voting member and voting in their place. Consultants and Visitors should print their names and sign the log marking arrival and departure times as well**

**Georgia State University**
**Institutional Animal Care and Use Committee Meeting**
**Friday, July 27, 2018 11:00 AM**
**Meeting Minutes**

**Members Present:** Dr. Plemper, Dr. Ignatowicz, Dr. Hart, Dr. Petrulis, Dr. Denning, Dr. Song, Dr. Beran, Dr. Tsai, Dr. Xue, Dr. Roseberry, and Ms. Roberts.

**Members Absent:** Mrs. Summerville and Dr. Attanasio

**Alternative Member Absent:** Amelia Wilkes

**Ex-Officio Member Present:** Brenda Chapman

**Liaison, EX-Officio Member to the Committee Present:** Ms. Kilcullen-Steiner

**IACUC/IBC Compliance Officer Present**: Casey Brinsfield

**Call to Order:**

Dr. Plemper convened the meeting at approximately 11:04 AM when a quorum was present in

I. **Conflict of Interest Declaration**

The Conflict of Interest Declaration was emailed to the committee members and discussed at the meeting. Whenever a committee member departs the room due to a conflict of interest, it will be annotated in the "**VOTES**" section.

II. **Meeting Minutes Review**

The June 27, 2018 meeting minutes were sent via email to the members prior to the meeting.

**Motion:** A motion was made and seconded to approve the meeting minutes as presented There was no further discussion. All members present voted:

**Votes:** For: 10 Against: 0 Abstain: 1

III. **Protocol Reviews**

**Electronic copies of the protocols were available to IACUC members prior to the meeting.**

**A. Protocol: A18060**

**Title:** Genetic Role in Neonatal and Adult Mouse Heart Regeneration

**Summary:** The investigators plan to develop mouse models of infarction and myocardial ischemia. These models will be pivotal to investigate the acute and chronic myocardial

ischemia pathobiological and pathophysiological processes and to develop and optimize future treatments

- Section 6.3, provide a brief description of the knockout mice explaining why you need to use them.
- Section 6.3, define LKB1, ido 1, etc.
- Section 7.1, state specifically and in lay language, what are you planning to do.
- Section 7.2, modify the paragraph, using appropriate lay language and expand on why the research is being done. Section 8.5, change monitoring to twice daily in the first 7 days after cardio surgery, then once daily.
- Section 8.5, change monitoring to twice daily in the first 7 days after cardiosurgery, then once daily.
- Section 9.2, expand search to entire database or justify time limitation.
- Section 9.2, include animal species in your search terms.
- Section 9.2, address discrepancy between keywords used and keywords discussed in the summary of search results.
- Section 14.4, the narrative section 13.1 does not include retro-orbital sampling. Either remove this procedure from this section or incorporate it into the description of the experimental design in section 13.1.
- Section 21.1, elsewhere in the protocol it states 7-day intervals for the ECG. Clarify.
- Section 22.3, explain "The surgical tools must be sterilized prior to use by autoclaving per the aforementioned policy so remove the comment about sterilizing only with the hot bead sterilizer prior to use."
- Section 22.3, indicate when the chest tube is removed for the adult surgery.
- Section 22.3, for adult heart surgery, it is indicated that the surgical field will be disinfected with 80% ethanol. Remove this statement and follow the "aseptic technique for surgery" policy by reviewing the link in section 23.1, which describes preparation of the surgical field, instrument prep, etc. This policy applies to both the neonatal and adult surgeries.
- Section 22.3, amend #15 adult heart surgery to read as follows: At anesthetic induction, both carprofen and buprenorphine SR will be administered prior to making the surgical incision. As the buprenorphine SR lasts approximately 72 hours, no follow-up analgesia administrations are needed.
- Section 22.3, for the adult heart surgery (item #11), as a surgical cut down on the trachea is not performed, remove the language discussing placing a suture to close the incision between the tracheal rings.
- Section 24.2, add saline to the list of substances administered.
- Section 24.3, answer the question "…I will ensure that all relevant lab personnel have read and will adhere to the standards specified in the GSU IACUC Policy on the Use of Non-Pharmaceutical Grade Substances (Injected Substances)".
- Section 25.0, select "genotyping or blood collection (tail snip)", "isoflurane anesthesia using a precision vaporizer", "other non-surgical procedure" and "other surgical procedure" and assign them to the personnel who will be performing the tasks.

- Section 27.4, change to "Yes" and list special post-surgery diet as outlined in the procedures section.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 10 Against: 0 Abstain: 0

*One member was not present during the vote and discussion of the protocol due to a conflict.*

**B. Protocol: A18062**

**Title:** The Role of Parturition in Brain Development

**Summary:** During brain development, there is an overproduction of neurons, followed by a period of naturally occurring cell death. This "sculpting" process eliminates about half of the neurons initially generated and is essential for normal brain development. This lab is looking at three factors that may control developmental neuronal cell death: inflammation, birth mode and epigenetic modifications.

- Section 11.2, the study involves more than "intracerebroventricular injection" but only this term was used in the search.
- Section 12.1, check relevant box for decapitation of fetus/pups.
- Section 14.1, update the total number of animals as the total number of animals used in Experiment 3 has been reduced to 1047 from 1077.
- Section 14.3, it states that existing data was used to determine the sample sizes, statistical power and that the required numbers of animals can be estimated. Thus, the option of "statistical tools" in 14.2 should be checked/selected.
- Section 14.3, state if sex will be a factor in study 2.a, 2b(2), and 3e for estimating the number of animals needed.
- Section 14.3, for study 3 (and maybe other studies as well), indicate if the animals can be shared among sub-studies (a, b, c, and/or d).
- Section 14.3, experiment (1): briefly justify 12 pilot runs.
- Section 14.3, experiment (2a, 2d2): justify n=4/group.
- Section 14.3, experiment (7): should "reporter" be "promotor"?
- Section 14.3, the number of animals in Experiment #3 in the table do not match the animal numbers in the Experiment #3 written description.
- Section 15.1, specify the time intervals between behavioral testing.
- Section 20.1, the description of the intracranial injection belongs under Surgical Procedures.
- Section 23.1, based on the description, if breeders for cesarean delivery will be euthanized after giving birth, each breeder female will only be estimated to produce 1 litter, not two (i.e. 6 pups not 12). Thus, the number of breeders would be underestimated in Section 14. Clarify.
- Section 25.0, for several personnel, a qualitative statement about level of competency is needed

- Section 27.7, indicate the building and room number.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:
**Votes:** For: 11 Against: 0 Abstain: 0

**C. Protocol: A18064**
**Title:** Investigation of Human Cell Constructs and Human Keratin Biomaterials for Skin
**Summary:** This is a 3-year renewal of a category D protocol. It will test reagents in two aspects of wound healing. In the first approach, 4 symmetrical wounds will be generated in the dorsal skin of diabetic mice, and new and currently approved reagents for accelerating wound healing will be tested. In the second, human keratinocyte grafts will be grafted to wounds in the dorsal skin of mice to test for the ability of the grafts to allow for regeneration of skin containing hair.

- Section 9.4, surgically induced wounds would be an adverse effect and sign of illness, justify why no was checked.
- Section 9.5, state what records will be kept for the monitoring of the animals' condition.
- Section 9.5, clarify if BCS scores will be used and kept in the housing room.
- Section 9.5, clarify what is meant by a body composition score of "1+".
- Section 10.2, redo this search in PubMed and not PubMed Central. Although publicly funded papers are supposed to be uploaded to PMC, this can take up to a year, and does not necessarily include any papers not funded by the NIH or NSF.
- Section 10.2, provide a summary of the results of the186 hits found in the search.
- Section 10.2, it is assumed the final search term "skin excision" is a typo and not included in the search.
- Section 12.1, clarify the diabetic mouse strain with the stock number. If this is the leptin receptor deficient db/db mice as stated later in the protocol, it has many more complications beyond just reduced life expectancy and impaired wound healing (e.g. obesity, hyperphagia, diabetes, etc.).
- Section 13.3, although it is appreciated that the PI has expertise in this area, power analyses should still be used to ensure the minimum number of mice are being used in each experiment.
- Section 13.3, if study 1 in the diabetic mice is a within subject design, state why the n is higher for it than for the study comparing keratin 6a in wild type and diabetic mice (n=6 each).
- Section 13.3, add a table, listing each experiment and the calculations for the animal numbers, to allow for easier evaluation of the animal numbers.
- Section 14.1, confirm that the wound creation will be done under anesthesia.
- Section 14.1, state whether the shorter time frame, second experiment (treatment-related effects on the cellular characteristics of the inflammatory phase of wound healing will be evaluated by comparing results observed in diabetic vs. non-diabetic (C57Bl6) mice.) will be done in the same way as described for experiment 1.

- Section 16.1, clarify that the minimum interval is 24 hours (for carprofen) but most will be weekly.
- Section 18.3, indicate that a second carprofen injection will be given 24 hours post-op.
- Section 18.3, adjust the carprofen dose to 5mg/kg to match the substances administration section.
- Section 18.3, state whether an animal will be treated or euthanized if it becomes ill.
- Section 18.3, move the details of the surgical procedures to section 19.1, and only describe pre- and post-op monitoring here.
- Section 18.7, check the appropriate boxes, as they are described in the surgical description section.
- Section 20.2, move Botox to the biologicals section as it is botulinum toxin.
- Section 20.2, clarify whether the tacrolimus will be used at each of the subsequent re-dressings of the wound. It appears this is the case in descriptions above, but it states here that it will only be applied once.
- Section 20.2, substances were mentioned earlier in the protocol that are not listed here. Add: Tegaderm, OpSite Post-Op, surgical scrub (e.g. betadine or what is used).
- Section 20.3, clarify whether the human keratin films are non-pharm substances or are they biologicals. It would seem to be biologicals.
- Section 21.0, provide details of experience in procedures beyond "highly experienced and competent."
- Section 21.0, click that PI is enrolled in MMPVAE.
- Section 22.1, check "Yes" as botox is botulinum toxin.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 11 Against: 0 Abstain: 0

**D. Protocol: A18065**

**Title:** Long Term Consequences of Early Life Pain

**Summary:** This is a three-year renewal, research only protocol. The overall goal of this proposal is to use rats to investigate how early life injury primes the microglia to be more easily excitable after an adulthood immune challenge.

- Section 7.1, state that the rat is the model for the research.
- Section 13.1, add a statement that time pregnant females will be used, and no breeding will be conducted on this protocol.
- Section 13.1, for the fox odor exposure in study 4, it is recommended that the experiment be performed in a procedural room or housing room only containing animals which should be exposed to the odor. Do not place a towel at the doorway as the air flow in the housing rooms and procedural rooms is negative (the air flows from the hallway to the rooms). Placing a towel to block air can change the airflow of the room.

- Section 19.1, clarify the maximum number of times the paw thermal stimulator will be performed on a given animal. It is understood that the animals typically receive three tests, but please clarify if there is a potential for a given animal to receive more than three stimulator tests.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 11 Against: 0 Abstain: 0

**E. Protocol: A18066**

**Title:** Autophagy and Diabetic Vascular Diseases

**Summary:** This is a 3-year renewal of a category D protocol that will test the role of mitochondrial autophagy in diabetes induced cardiovascular disease. Varying strains of mice (wild type and transgenic) will be used. The general procedures involve initiating diabetes either through high fat diet induced obesity, or via STZ administration. Various cardiovascular measures will be examined to determine endothelial cell dysfunction in cardiovascular disease and atherosclerosis.

- Section 9.5, describe what records, if any, will be kept for the monitored parameters (e.g. body comp score, etc.).
- Section 13.3, clarify why both WT and ob/+ mice need to be used in experiment 1, as ob/+ mice don't really have a phenotype distinct from WT for most physiology.
- Section 14.1, STZ induced hypoglycemia typically occurs acutely following STZ administration. Add a statement to the effect that 10% sucrose water will be offered if the animal has signs of hypoglycemia (i.e., moving slowly, hunched, lethargy) within the first 24 hours following administration. STZ mice must be monitored closely within the first 24 hours following administration of the agent.
- Section 16.0, confirm that the minimum time between tail nicks is 1 week.
- Section 20.1, it is not necessary to describe the procedures for transporting the mice here, as this is covered in a later section where you click that you will adhere to the GSU transportation policy.
- Section 21.2, add the basic frequency for carprofen injections (e.g. 24 hr minimum between injections).
- Section 21.2, add duralube eye ointment.
- Section 21.2, move saline from the non-pharm grade section to this section.
- Section 22.0, confirm that the correct procedures are checked for all personnel, as not every procedure is checked for each individual. (It is assumed this is correct but confirm).

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 10 Against: 0 Abstain: 0

*One member was not present during the vote and discussion of the protocol due to a conflict.*

**F. Protocol: A19000**
**Title:** Fronto-Sensory Circuit Mechanisms of Perceptual Novelty Processing
**Summary:** Schizophrenia is a debilitating psychiatric disorder affecting more than 1% of the population. Typically, symptoms begin in early adulthood, remain chronic throughout the lifetime, and dramatically impair an individual's interpersonal and occupational functioning. This study will use mouse models and cutting-edge neurotechnologies to gain new understanding of how the brain carries out important sensory and contextual computations. Experiments will be conducted to understand how brain circuits function in awake mice under passive viewing (simple visual stimulation) and when the behavioral goals of the animal depend on contextual processing.

- Section 10.3, check the box that "relevant lab personnel have read and will adhere to the standards specified in the IACUC Carbon Dioxide Euthanasia Policy".
- Section 10.3, check "Other" as you have provided a description in the text box.
- Section 10.3, clarify that toe pinch response will be tested on all four paws.
- Section 12.3, include a table indicating how many mice from each strain will be tested in each condition.
- Section 12.3, state if sex is considered a variable.
- Section 23.4, specify the amount of infectious particles injected.
- Section 23.4, specify the genetic nature of each recombinant gene expressed by the AAV(s) used.
- Section 24.0, all individuals working with animals must enroll in MMPVAE.
- Section 25.1, change selection to "yes" as AAV is used in the study.
- Section 26.10, click "Yes" for "all relevant lab personnel have read and will adhere to the standards specified in the Capture of Escaped Rodents policy".

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:
**Votes:** For: 11 Against: 0 Abstain: 0

## IV. Consent Agenda

1. **Changes to IACUC Submission Deadlines**
2. **Post Approval Monitoring**
   a. PAM Progress Summary
3. **LRC Updates**
   a. Report provided
4. **Census Report**
   a. July 2018 Census
5. **Injury Report**
   a. Injury report provided.

## V. New Business/Reports

1. **Non-Compliance/Adverse event – (A17006 & A18045)-Dr. Plemper**
   The PI self-reported protocol non-compliance (Inappropriate aseptic surgical technique and failure to provide analgesics to surgical mice). One mouse was euthanized. The PI implemented a corrective plan of retraining. Members have been retrained.

2. **Reinstatement of Protocols- Dr. Plemper**
   The committee reviewed the plan provided by the PI to prevent future non-compliance. The plan needs further minor revisions. Additional discussion included the importance of conducting pilot studies on new toxic agents. The PI and staff will be re-instated on August 2, 2018.

   **Motion:** A motion was made and seconded to approve re-instatement of the PI and lab staff members on August 2, 2018. There was no further discussion. All members present voted:
   **Votes:** For: 11 Against: 0 Abstain: 0

3. **IACUC Confidentiality and Voting agreements- Ms. Kilcullen-Steiner**
   Members received and signed yearly confidentiality and voting agreements.

4. **iMedRis Update- Dr. Plemper**
   Committee was notified that work has been outsourced to an outside contractor for the remaining iRIS fixes. A notice will be added to clarify the limitations of the submission of multiple experimental amendments.

5. **IACUC Member Training- Ms. Brinsfield**
   IACUC Member iRIS Training is postponed until August 24, 2018

6. **Other: Protocol Submission Process- Dr. Plemper**
   The new protocol submission process was presented which included a new calendar for IACUC deadlines and meetings. The information has been updated on the IACUC website.

**Adjournment**

Dr. Plemper adjourned the meeting at 1:21 PM.

Respectfully submitted by Ms. Brinsfield

## INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MONTHLY MEETING

## ATTENDANCE LOG RECORD

## DATE: 7/27/2018

| Attendance Record: | | |
|---|---|---|
| | | |
| **Print Name** | **Signature** | **Arrival/Departure** |
| Roberta Attanasio | | |
| Michael Beran | | 10:45 |
| Timothy Denning | | 10:45 1:25 |
| Michael Hart | | 10:50 / 1:25 |
| Leszek Ignatowicz | | 10:50 |
| Aras Petrulis | | 11:05 |
| Richard Plemper | | 10:50 1:25 |
| Cynthia Roberts | | 11:00 |
| Aaron Roseberry | | 10:56 |
| Ping Song | | 10:46 |
| Kay Lee Summerville | | |
| Liang-Ching Tsai | | 11:05 |
| Bingzhon Xue | | 10:58 |
| **Alternate:** Amelia Wilkes (for Vet) | | |
| | | |
| ExOfficio: Dr. Weyhenmeyer | | |
| ExOfficio: Casey Kilcullen-Steiner | | 10:45 / 1:33 |
| ExOfficio: Betsy Butler | | |
| ExOfficio: Brenda Chapman | | |
| Compliance Officer: Casey Brinsfield | | |
| Administrative Assistant: Ravi Gandhi | | |
| | | |
| **GUEST:** Dean Blake | | 10:54 1:25 |
| **GUEST:** | | |
| **GUEST:** | | |

**Alternates should sign their names if they are representing an absent Voting member and voting in their place. Consultants and Visitors should print their names and sign the log marking arrival and departure times as well**

**Georgia State University**
**Institutional Animal Care and Use Committee Meeting**
**Friday, June 22, 2018 11:00 AM**
**Meeting Minutes**

**Members Present:** Dr. Plemper, Dr. Kang, Dr. Hart, Dr. Menzel, Dr. Denning, Ms. Summerville, Dr. Ingalls, and Dr. Tsai

**Members Absent:** Dr. Yu, Dr. Attanasio, Dr. Xue, Dr. Roseberry, Ms. Roberts

**Alternative Member Present:** Amelia Wilkes (vote not counted)

**Ex-Officio Member Present:** Brenda Chapman

**Liaison, EX-Officio Member to the Committee Present:** Ms. Kilcullen-Steiner

**IACUC/IBC Compliance Officer Present**: Casey Brinsfield

**Call to Order:**

Dr. Plemper convened the meeting at approximately 11:02 AM when a quorum was present in

**I. Conflict of Interest Declaration**

The Conflict of Interest Declaration was emailed to the committee members and discussed at the meeting. Whenever a committee member departs the room due to a conflict of interest, it will be annotated in the "**VOTES**" section.

**II. Meeting Minutes Review**

The May 25, 2018 meeting minutes were sent via email to the members prior to the meeting. One correction was requested.

**Motion:** A motion was made and seconded to approve the meeting minutes as revised. There was no further discussion. All members present voted:

**Votes:** For: 7 Against: 0 Abstain: 1

**III. Protocol Reviews**

**Electronic copies of the protocols were available to IACUC members prior to the meeting.**

**A. Protocol: A18059**

**Title:** Causes and Consequences of Dominant vs. Subordinate Social Status

**Summary:** This is a 3-year renewal that utilizes Green Anole lizards to study brain and body system changes that occur after a laboratory experience mimicking natural social behavior, including patterns of gene expression.

- Section 7.1, indicate the animal model you will be using in the study.
- Section 13.1, state if the animals undergoing procedure #1 will also do the behavioral test in procedure #2. If yes, state the sequence and time interval(s) between the different procedures.
- Section 13.1, state if the animals used in #3 and #4 also undergo both procedure #1 and #2. If yes, state the sequence and interval(s) for these different procedures.
- Section 15.1, indicate the maximum times and minimum intervals for each of the procedures.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 8 Against: 0 Abstain: 0

## IV. Consent Agenda

1. **IACUC Annual Review of Animal Enrichment Guidelines (with revisions)- Dr. Hart**
2. **Post Approval Monitoring**
   a. PAM Progress Summary
3. **LRC Updates**
   a. Report provided
4. **Census Report**
   a. June 2018 Census
5. **Injury Report**
   a. Injury report provided.
6. **IACUC Member Training Documents**
   a. *Reforming Animal Research Regulations: Workshop Recommendations to Reduce Regulatory Burden, Report of an April 17, 2017 workshop organized by FASEB, AAMC, and COGR, with assistance from NABR.*

## V. New Business/Reports

1. **Non-Compliance/Adverse event – (PI Re-instatement)-Dr. Ingalls**
   The PI notified the IACUC that he had completed the required off-site training. He submitted a plan to prevent future occurrences of non-compliance which was reviewed. Several items must be revised before IACUC approval, including the PI must coordinate with DAR to demonstrate competency with each procedure, they must follow the protocol as approved, and inclusion of the PI responsibilities. At the July meeting the committee will review the revisions and determine if the suspended protocols can be reinstated on August 2, 2018.

**Motion:** A motion was made and seconded to require the PI to revise the plan. There was no further discussion. All members present voted:

**Votes:** For: 8 Against: 0 Abstain:

2. **IACUC Annual Review of Veterinary Permanent Social Housing Exception- Dr. Hart**
   The Attending Veterinarian provided an annual update on the macaque socialization exceptions.

3. **iMedRis Update- Dr. Ingalls**
   A meeting is planned for the coming week to review the changes in the protocol and system updates. Emphasis will be placed on the need for all expiration/annual/renewal notifications to be active.

4. **IACUC Member PowerPoint Training- Ms. Brinsfield**
   Next IACUC Member PowerPoint Training is July 2018

5. **Other: Mouse identification for ABSL2+ housing- Dr. Wilkes**
   Identification methods were tested on different strains of mice. The pink dye did not work on BL/6, but shaving the dorsum may be an option. Further testing is underway.

**Adjournment**

Dr. Ingalls adjourned the meeting at 11:40 AM.

Respectfully submitted by Ms. Brinsfield

## INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MONTHLY MEETING

### ATTENDANCE LOG RECORD

### DATE: 6/22/2018

**Attendance Record:**

| Print Name | Signature | Arrival/Departure |
|---|---|---|
| Roberta Allaniasio | | |
| Timothy Denning | | 10:34 |
| Michael Hart | | 10:55 |
| Chris Ingalls | | 10:47 |
| Sang-Moo Kang | | 10:56 |
| Charles Menzel | | 10:55 |
| Richard Plemper | | 10:51 12:30 |
| Cynthia Roberts | | |
| Aaron Roseberry | | |
| Kay Lee Summerville | | 10:55 |
| Liang-Ching Tsai | | 11:00 |
| Bingzhong Xue | | |
| Liqing Yu | | |
| **Alternate:** Amalia Wilkes (for Vet) | | |
| ExOfficio: Dr. Weyhenmeyer | | |
| ExOfficio: Casey Kilcullen-Steiner | | 10:45 12:53 |
| ExOfficio: Betsy Butler | | 10:58 |
| ExOfficio: Brenda Chapman | 10:55 | |
| Compliance Officer: Casey Brinsfield | | 1034 |
| Administrative Assistant: Ravi Gandhi | | |
| **GUEST:** Dean Blake | | 10:57 12:30 |
| **GUEST:** | | |
| **GUEST:** | | |

**Alternates should sign their names if they are representing an absent Voting member and voting in their place. Consultants and Visitors should print their names and sign the log marking arrival and departure times as well**

**Georgia State University**
**Institutional Animal Care and Use Committee Meeting**
**Friday, May 25, 2018 11:00 AM**
**Meeting Minutes**

**Members Present:** Dr. Plemper, Dr. Kang, Dr. Roseberry, Dr. Hart, Dr. Menzel, Dr. Denning, Ms. Summerville, Ms. Roberts, and Dr. Tsai

**Members Absent:** Dr. Yu, Dr. Ingalls, Dr. Attanasio, and Dr. Xue

**Alternative Member Present:** Amelia Wilkes (vote not counted)

**Ex-Officio Member Present:** Brenda Chapman

**Liaison, EX-Officio Member to the Committee Present:** Ms. Kilcullen-Steiner

**IACUC/IBC Compliance Officer Present**: Casey Brinsfield

**Call to Order:**

Dr. Plemper convened the meeting at approximately 11:06 AM when a quorum was present in

I. **Conflict of Interest Declaration**

The Conflict of Interest Declaration was emailed to the committee members and discussed at the meeting. Whenever a committee member departs the room due to a conflict of interest, it will be annotated in the "**VOTES**" section.

II. **Meeting Minutes Review**

The April 27, 2018 meeting minutes were sent via email to the members prior to the meeting.

**Motion:** A motion was made and seconded to approve the meeting minutes. There was no further discussion. All members present voted:

**Votes:** For: 8 Against: 0 Abstain: 0

*One voting member entered the room after the vote.*

III. **Protocol Reviews**

**Electronic copies of the protocols were available to IACUC members prior to the meeting.**

**A. Protocol: A18038**

**Title:** Impact of Berry Consumption on Gut Microbiota, Inflammation, and Insulin Resistance

**Summary:** This study aims to assess the pharmacokinetic and toxicokinetic profiles of four different test articles considered for chemoprevention and chemotherapy of breast, prostate, and pancreatic cancer. Category D protocol, test species are rats. Test articles (ginger, ethanolamine, buparvaquone, irinotecan) will be dosed once p.o. or IV, followed by mass balance (urine and feces sampling), PK, tissue distribution, and TK assessment. Blood samples will be obtained from the saphenous vein or through cardiac puncture at 8-time points over a 24-hour period.

- Section 7.2, there are 9 chemopreventive and chemotherapeutic agents proposed. Provide background on why these agents show promise as chemotherapeutics and chemopreventatives.
- Section 8.5, add DAR staff members.
- Section 9.2, pain category "D" requires completion of this section. Address the questions, in the following sections provided in the form.
- Section 9.4, answer question.
- Section 10.1, consider the use of a precision vaporizer instead of a drop jar.
- Section 11.3, clarify whether cytotoxic concentrations of the test articles will be first determined in cultured cells. Indicate if metabolic stability will be prescreened in hepatocytes or hepatocyte subcellular fractions prior to testing in animals.
- Section 12.1, recalculate animal numbers as it should be 180 (not 162) if numbers in all experiments are combined.
- Section 12.3, for this pilot project, the number of animals required could be reduced substantially if tissue distribution is assessed only 1-hour after Cmax (PK informed) and at trough (determined by desired dosing regimen). Early time points, after oral dosing, should be anticipated to provide very little useful information.
- Section 12.3, animal numbers could be further reduced, if the same set of three animals/test article for each toxicokinetic dose level were used along with build in wash-out days between testing of the different dose levels.
- Section 12.3, change "plasma" to "blood", which is what will actually be collected.
- Section 12.3, confirm that the nature of "other chemotherapeutic and chemopreventive agents" that may be tested will be disclosed to the IACUC in an amendment to the protocol before experimentation commences.
- Section 12.3, the "No. of animals per time point column" is confusing. All 3 animals appear to be used for all 8 times of sampling in the Mass balance studies, Pharmacokinetic studies, and Toxicokinetic studies. Clarify.
- Section 13.1, specify the amount of blood that will be withdrawn at each time point for PK and TK studies.
- Section 13.1, Clarify how the urine and feces will be collected at the designated time points. If a special cage such as a metabolic cage is used provide the caging information in the appropriate subsection of the animal housing and husbandry section. DAR does not provide metabolic cages.
- Section 14.4, check "blood collection (cardiac)" complete the questions as presented.
- Section 17.1, clarify whether animals enrolled in mass balance studies will be reused for one of the subsequent studies after wash-out. If so, adjust the maximum number of gavages accordingly.

- Section 18.1, address the assurance statement.
- Section 18.2, include isoflurane with an induction rate of 5% and a maintenance dose of 1-3%.
- Section 18.2, address how the depth of anesthesia will be assessed (i.e., pinching all four paws to assess a withdrawal reflex, monitoring respiratory rate, and monitor movements).
- Section 18.2, include the following agents: Palbociclib, Ribociclib, Abemaciclib, Enzalutamide, &Bicalutamide.
- Section 18.3, describe how ginger extract will be produced and the concentration determined.
- Section 18.3, add all applicable agents in this section. Additional agents that will be administered in the PK study should be listed in this section. Reconcile the discrepancies.
- Section 19.0, describe level of competency/experience with the techniques listed for each person.
- Section 20.3, contact the chemical safety officer Mr. Jamar Simmons at jamar@gsu.edu regarding safely working with these agents in the animals. This protocol will not be approved until the appropriate SOP for handling the chemicals, bedding, carcasses, caging, etc. has been provided by the Chemical Safety group.
- Section 21.1, see comments in the animal use narrative section regarding housing of the rats.
- Section 21.2, since feces and urine will be collected from the rats, it is suspected that the rats will be singly housed to accurately analyzed the samples. Revise this section accordingly.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 9 Against: 0 Abstain: 0

**B. Protocol: A18049**

**Title:** Evolution of Vocal Communication Diversity in Andean Hummingbirds

**Summary:** This is a new protocol to perform pilot studies on hummingbirds in the Ecuadorean Andes. The calls/vocalizations of two species of hummingbirds will be measured in their native environment with no disruption of the birds or their habitat. Then multiple species of birds (both sexes) will be captured and tested. For two species, the birds will be placed in cages and their responses to audio recordings of the native calls will be measured. The birds will then be euthanized and their brains collected for analysis of receptor expression. In the second experiment, 5 different species will be captured and euthanized and different tissues collected for genomic and gene expression analysis.

- Section 5.4, provide a copy of the Memorandum of Understanding along with copies of the Ecuadorian collection permits.

- Section 13.3, clarify the number of animals used for tissue collection. Clarify if tissue can be dissected and used for the genomic analysis from the animals used in the behavioral experiments. If not, and there is a good reason, justify.
- Section 13.3, clarify the timing of the use of the 6 animals for validation of protocols. State if this will be done entirely before the rest of the studies. It would seem this would be necessary to ensure that the other birds will not be euthanized prior to working out the procedures that will be used to examine their tissue.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 9 Against: 0 Abstain: 0

**C. Protocol: A18053**
**Title:** Cognitive Testing of Capuchin Monkeys (Capuchin base protocol)
**Summary:** The investigators aim to understanding the basic cognitive and social-psychological functions such as perception, attention, learning, memory, categorization, planning, communication, self-monitoring, emotion, and problem-solving in capuchin monkeys. Animals will work on computerized tasks that are designed to assess various aspects of primate behavior and cognition. Alternatively, testing will be carried out with manual versions of the computerized paradigms

- Section 9.5, it is stated that an overall weight loss of greater than 20% of body weight requires euthanasia. Modify this to "be no more than 20% of body weight loss…"
- Section 13.3, indicate if both males and females used or state that animal numbers are from same sex mice.
- Section 16.1, revise the maximum and minimum number of time intervals between the tail nick procedures. The GTT and ITT protocols require more tail nicks for blood collections.
- Section 18.1, modify the maximum number of times the injections will be administered to reflect the addition of the two IP injections for GTT and ITT testing.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 9 Against: 0 Abstain: 0

**D. Protocol: A18054**
**Title:** Pathogenesis of Kidney Injury and Fibrosis
**Summary:** Acute kidney injury (AKI) is an important risk factor for development of Chronic kidney disease (CKD) including kidney fibrosis. Dysregulated inflammatory response and tissue repair response are the hallmarks of AKI and CKD. The objectives of the proposed studies are to fully understand how inflammatory response and tissue repair

response are tightly regulated in the pathogenesis of kidney injury and fibrosis. These studies will not only bring new insights into how inflammatory response and tissue repair response are tightly controlled but also lead to the identification of novel therapeutic targets for inhibiting overactive inflammation and tissue repair response.

- Section 13.3, for clarity, provide a list of the mutant strains that will be bred in house.
- Section 15.1, select "No" as LPS is not being used to boost an inflammatory process.
- Section 24.2, a dose range for cisplatin is provided, describe how the ultimate dose to be used is decided. Describe the dose the animals will receive initially and describe the mechanism that guides the adjustment of the dose within the stated dose range.
- Section 24.2, this protocol will not be approved until the appropriate SOP for handling the cisplatin, bedding, carcasses, caging, etc. has been provided by the Chemical Safety group.
- Section 24.3, there are MAP kinase regulators listed here that are not listed in the narrative/animal number section. Add or delete MAP to reconcile both sections.
- Section 24.3, various regulators are listed, such as several PDE regulators. In the number calculation section, the number is based on only 1 regulator for each pathway. If all the chemicals are to be used, then the number will need to be increased accordingly.
- Section 24.3, define the term MOCK. If MOCK is an inhibitor, add it here. Define which solvent (vehicle) will be used for the different substances. If different vehicles will be used and "MOCK" means vehicle-treated, specify which type of vehicle will be used.
- Section 24.3, describe how the ultimate dose is determined. State what dose will be given to the animals initially and the mechanism used to guide the adjustment of the dose within the stated dose range.
- Section 24.3, a dose range for LPS is provided, describe how the ultimate dose to be used is decided. Describe the dose the animals will receive initially and describe the mechanism that guides the adjustment of the dose within the stated dose range.
- Section 27.7, since you selected "No", uncheck the box for the answer to "If Yes, complete the following: See GSU IACUC Animal Transportation Policy."

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 9 Against: 0 Abstain: 0

**E. Protocol: A18055**

**Title:** Diet and Cardiovascular Diseases

**Summary:** Clinical trials indicate that the use of fish oil reduces cardiovascular disease (CVD) and delays the development of atherosclerosis (fat deposits in the wall of blood vessel) in patients. However, the underlying mechanisms by which fish oil exert their protective effects remains poorly understood. The current project will test if selective

activation of an energy sensor, AMP-activated protein kinase (AMPK), by fish oil, inhibits the biological degradation system. The research will also investigate if activation of AMPK inhibits the expression of key enzymes resulting in the decreased oxidative stress, a key factor in vascular injury caused by high fat diets (HFD), as well as the effect of high protein low carbohydrate (HPLC) diet on cardiovascular function.

- Section 15.1, specify how long the mice fed HFD before adding omega-3 polyunsaturated fatty acids.
- Section 15.1, describe the criteria used to determine which mice would be euthanized after the HFD. Indicate if those mice can be used in another procedure.
- Section 15.1, define GTT and ITT the first time they are used.
- Section 15.1, describe why only 5 mice from each group will be tested for certain functions or outcome variables.
- Section 15.1, indicate what sample size (N= 20 per group) was estimated for which outcome measurement.
- Section 15.1, it states that the obese mouse, with normal blood glucose levels, will serve as the control. Clarify whether these would be combined with the controls from the normal diet. If not, would this introduce another loss of animals required for testing.
- Section 15.1, the follow-up/treatment time is a range of (8-12 weeks). Clarify why there is not a fixed time point for every mouse/group
- Section 15.1, recalculate the number of tail nick procedures, since ITT, GTT will also use this procedure.
- Section 15.1, update the minimal intervals between tail nick procedures.
- Section 15.1, indicate if this includes the procedure done after a week of acclimatization to measure baseline glucose.
- Section 16.1, indicate the purpose of the Subcutaneous (SC) Injection.
- Section 19.1, clarify the number of times the GTT and ITT (up to 5) will be performed.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 9 Against: 0 Abstain: 0

**F. Protocol: A18057**

**Title:** Regulation of Leukocyte Inflammatory Function

**Summary:** This is a 3-year renewal of a category E protocol that requests to use 6320 mice. 4 different transgenic mouse lines will be used (plus WT controls) and a variety of experimental procedures will be performed to induce different types of inflammation. Mice will be euthanized at different time points and different measures of leukocyte function will be assessed.

- Section 9.4, for DSS signs of illness, include hunched posture, piloerection, dehydration and decrease activity as these are common signs of illness with the mice that receive DSS water.
- Section 9.4, for the diabetes animal model, include that hunched posture and increased frequency of urination.
- Section 9.5, note that the mice are monitored daily by DAR husbandry staff. The DAR veterinary staff monitor as needed for reported health issues.
- Section 9.5, for the documentation of the mouse body condition score (BCS), clarify if the document indeed will remain in the animal housing room. To date, the lab has not been leaving the document in the animal housing room. Update this section to reflect current practice.
- Section 9.5, note that the BCS of 2 or less is used as humane endpoint criteria.
- Section 9.5, add rectal prolapse with associated bleeding to the list of humane endpoints for DSS.
- Section 9.5, revise to reflect the hourly to daily monitoring of the peritonitis model, DSS model and LPS induce lung inflammation model humane endpoints, which are described in the animal use narrative section.
- Section 9.5, define BCS at first use.
- Section 9.5, anorexia and not eating were listed as conditions indicating impairment of normal condition. Describe if food intake will be measured.
- Section 9.5, for the question "Will non- tumor cells be administered to the animals?", mark "YES" since this involves adoptive Transfer of Leukocytes.
- Section 12.1, include all strains used in the section. Include mice with green or red fluorescence expression, GFP and RFP strains, which are described in the animal use narrative section.
- Section 13.3, experiment A (acute inflammation), the description states that six rounds of acute inflammation will be performed, but the animal numbers reflect 3 rounds. Clarify why two wild-type mice will be used in both the acute and chronic inflammation experiments. Modify the animal numbers accordingly.
- Section 13.3, explain why two wild-type mice are needed for each experiment.
- Section 13.3, experiment B, adjust animal numbers to reflect what is described in the text. Six rounds of animal testing are described, but only three rounds have been calculated. Eleven-time points have been described, but only 6-time points have been calculated.
- Section 13.3, experiment C, clarify animal numbers; as 4 mice per group is described, but the calculated numbers reflect 8 mice per group. Separate sex has been described, but has not been calculated in the animal numbers.
- Section 13.3, experiments D & E have discrepancies regarding the animal numbers. Revise the animal numbers to reflect what is written in the descriptions.
- Section 13.3, include a very brief description of why each mouse strain needs to be analyzed.
- Section 14.1, experiment B, clarify whether or not the DAR Associate Director is still notified of the DSS treatment schedule. DAR is aware of the DSS water

provided to the mice, as the lab is responsible for placing transparent cage which details the start and end dates of the DSS water.

- Section 14.1, experiment E, it is understood that STZ will be administered and blood will be collected at serial time points to assess the animals glycemic value. Clarify the frequency of the blood collections "throughout the latter phase of the experiment for those mice that do not become sufficiently hyperglycemic".
- Section 14.1, clarify if the diabetic mice used in long-term experiments (5 - 8 months) will receive daily insulin injections and glucometer evaluations.
- Section 14.1, note that it is recommended to use the tail nick blood collection technique instead of the lateral saphenous vein for daily blood collection for glucometer assessments. The tail nick will allow more accuracy to collect a smaller amount of blood, as only 5µL is needed for the glucometer readings.
- Section 14.1, experiment F, provide the correct section for the reference to "Section 6".
- Section 14.1, if GFP and RFP labeled mice will be used, list the mouse strains in section 12.1. If this is only a future alternative, remove and submit an amendment when you finally want to use these mice.
- Section 16.1, there are discrepancies with the maximum and minimum number of time intervals between blood collections. The animal narrative section describes a minimum of daily intervals between blood collections and also describes at least 12-time points to collect the blood (i.e., once after each STZ injection, 2-4 weeks following STZ injection, daily for insulin injections with glucometer readings). Reconcile the discrepancies.
- Section 16.1, see the comments in section 14.1 regarding the tail nick as an alternative to saphenous blood collections. If tail nick is an alternate to saphenous, state so.
- Section 17.1, there are discrepancies regarding the maximum and minimum number of time intervals between blood collections. The animal narrative section describes a minimum of daily intervals between blood collections. It also describes at least 12-time points to collect the blood (i.e., once after each STZ injection, 2-4 weeks following STZ injection, daily for insulin injections with glucometer readings). Reconcile the discrepancies.
- Section 18.1, reconcile the discrepancies regarding the maximum number of times the insulin will be administered.
- Section 20.1, include the STZ protocol in this section.
- Section 20.1, clarify for the frequency that the 10 days still refers to only 5 injections.
- Section 20.1, correct typos: LPS Adminstration --- “Administration” and micropipette containg ---- “containing”.
- Section 21.3, revise the frequency of administering STZ to reflect the description in the animal use narrative. The animal use narrative states that STZ might be administered in two cycles (re-dosing).
- Section 24.1, if sucrose is to be given to the mice in the drinking water, include a description of it here as well.

- Section 24.4, select "yes" as DSS water will be administered. Copy and paste the well-written explanation in section 24.1.
- Section 24.5, select "yes" as food will be restricted for STZ administration.
- Section 22.0, Shi Lei ("Stone") is under investigation by the IACUC for a possible breach of protocol violation. Until he has been cleared by the IACUC, remove him from the approved personnel associated with this study.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 9 Against: 0 Abstain: 0

**G. Protocol: A18058**
**Title:** Hippocampal Modulation of Energy Intake
**Summary:** Overall goal is to better characterize the brain regions and molecular mechanisms that mediate the inhibitory effects of memory on eating-drive, investigating neuronal determinants of obesity. Overarching hypothesis is that brain regions associated with memory maintenance are involved in inhibition food intake. Objective is to test a link between the functionality of hippocampal memory neurons and the development of obesity

- Section 7.1, add in the animal species/model used for these studies and how they will be used.
- Section 8.5, add "...and/or the DAR veterinary staff." " to who will determine if euthanasia is required".
- Section 10.1, provide scientific justification and literature references related to conducting decapitations without anesthesia. If not doing this procedure, uncheck the box.
- Section12.3, table lists 185 rats for exp. #1, but subsequent experiment description requests 370 animals for #1. Correct the discrepancy and cross-check all animal numbers stated in table and narrative.
- Section 12.3, a vast number of procedures, substance administration, and non-surgical behavioral training methods and tests are listed. It is unclear which of these procedures, trainings, and tests will be administered to a given individual animal. Break down into an informative overview table of specific procedures and tests that will be applied to each animal/group. Cross check that animal numbers are correct. Use a table to account for all animals used.
- Section 13.1, indicate when ibutton surgery occurs in the course of the experiment (e.g. under the same anesthetic episode as the stereotaxic surgery) and indicate if the ibutton implantation applies to all listed experiments.
- Section 13.1, diazepam is listed as a substance administered in the "substance administration" section. The rationale for its use is not indicated. State if diazepam is listed in order to treat seizures should they result after the administration of the NMDA neurotoxin. Provide the rationale in the protocol.

- Section 15.1, section 19.1 discusses the ITT and GTT procedures and indicates there will be an initial blood sampling followed by 7 additional samplings. It is indicated here that there will be 4 tail nicks. Clarify.
- Section 16.1; clarify the frequency of IM injections. Currently IM injections are to be given 4x with a minimal interval between injections of 1 week. It appears that the only substance given IM is penicillin and it will be given 2x 48 hours apart.
- Section 17.1, clarify the frequency of SQ injections. Currently SQ injections are to be given 4x with a minimal interval between injections of 1 day. It appears that the substances administered SQ (carprofen, saline, and lidocaine/epinephrine) involve a total of 4 injections given within a 24-hour period.
- Section 18.1, the frequency of IP injections is given to be 4x with a minimal interval between injections given to be 1 day. This is not consistent with the experimental design in which a multitude of substances may be given IP (anesthetics, saline, insulin, etc., some of which are given multiple times). Clarify the frequency of injections.
- Section 19.1, for conditioned place preference procedure, delete the reference to section 14.6, as no section exists.
- Section 20.3, as stated elsewhere, carprofen is suggested to be used in lieu of ketoprofen.
- Section 24.1, it is suggested to replace ketoprofen with carprofen.
- Section 25.2, consider replacing ketoprofen with carprofen, as the former has been associated with adverse sequelae in rats that the latter has not (because the former is less selective in its action in that it inhibits two enzymes than the latter which inhibits one enzyme. It is the inhibition of this additional enzyme by ketoprofen that makes it more ulcerogenic than carprofen. See "A Therapeutic Dose of Ketoprofen Causes Acute Gastrointestinal Bleeding, Erosions, and Ulcers in Rats" Journal of the American Association of Laboratory Animal Science, Vol 51 (No. 6), November 2012, pages 832-841.
- Section 25.2, address the frequency of isoflurane administration.
- Section 25.2, the use of empirical antibiotics (penicillin) is generally not indicated or recommended for sterile surgeries that do not involve entering a contaminated region (e.g. as would occur with surgically entering the GI tract). If penicillin has been used previously and want to maintain continuity with previous studies, then indicate so.
- Section 25.3, use pharmaceutical grade (e.g. glucose and insulin and perhaps others if available in pharm-grade).
- Section 25.4, specify "lentivirus" as that is a large genus with many different members and that affect the biosafety level.
- Section 25.4, specify the amount of infectious particles administered of each virus. "2microl" is not an informative unit when it comes to virus inoculation.
- Section 26.0, it states that Karan Sharma has no experience in conducting any of these tasks in animals. Indicate that she will undergo training for competency before she will perform any of the procedures without supervision.
- Section 26.0, specify years of experience with the procedures for each investigator.

- Section 27.2, per the IBC viral vector policy, the IBC will advise regarding the AAV as to whether it is an ABSL1 or ABSL2 AAV while the lentivirus will be ABSL2 initially. Coordinate with DAR management so that the rats can be housed in the correct location in the animal facility).
- Section 27.3, answer "yes" due to the use of the NMDA neurotoxin.
- Section 28.3, since "yes" is provided, provide the explanation.
- Section 28.7, for the Echo MRI for body composition analysis, it is understood this device is located on PSC 8th floor. State this is another reason the rats will be removed from the animal facility.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:
**Votes:** For: 7 Against: 0 Abstain: 0

*One voting member did not participate in the discussion and vote, due to a conflict. Another member was not present for the vote.*

**IV. Consent Agenda**

1. **IACUC Photography and Videotaping GSU Animal Facilities- Dr. Hart**
2. **Post Approval Monitoring**
   a. PAM Progress Summary
3. **Updates**
   a. Nothing to report

**4. Census Report**
   a. May 2018 Census

**4. Injury Report**
   a. Injury report provided.

**V. New Business/Reports**

1. **Non-Compliance/Adverse event – (Loose mice A17015)-Dr. Plemper**
   Several mice were found loose in the research building. They were traced back to a particular lab based on the tumor implantation site. An IACUC subcommittee interviewed a lab member involved in the recent animal handling and euthanasia for the lab. The lab member acknowledged that he had not euthanized all the animals that had reached their humane endpoints as requested by the veterinary staff. He moved animals to a different cage to prevent euthanasia. The committee agreed to the following sanctions: The lab member will be suspended for 6 months, he must complete all training (AALASLL, IACUC Policies and a DAR SOP) before the PI can request that his animal use privileges be re-instated.

   **Motion:** A motion was made and seconded to approve the sanctions of the non-compliance/adverse event. There was no further discussion. All members present voted:
   **Votes:** For: 9 Against: 0 Abstain:

2. **Capture of Escaped Rodents policy revision- Dr. Plemper**
   Language was included in the policy to reflect the process of capturing infectious animals.

   **Motion:** A motion was made and seconded to approve the revisions as submitted. There was no further discussion. All members present voted:
   **Votes:** For: 9 Against: 0 Abstain:

3. **IACUC Semiannual Facility Inspection Report- Ms. Kilcullen-Steiner**
   Members reviewed the IACUC Semiannual facility inspection report.

   **Motion:** A motion was made and seconded to approve the Semiannual Facility Inspection as submitted. There was no further discussion. All members present voted:
   **Votes:** For: 9 Against: 0 Abstain:

4. **IACUC Evaluations (Chair, Self and Staff)- Ms. Kilcullen-Steiner**
   Members were reminded to complete and submit the IACUC evaluations.

5. **iMedRis Update- Dr. Plemper**
   No update on iRIS.

6. **IACUC Member PowerPoint Training- Ms. Brinsfield**
   Next IACUC Member PowerPoint Training is July 2018

**Adjournment**
Dr. Plemper adjourned the meeting at 1:55 PM.

Respectfully submitted by Ms. Brinsfield

## INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MONTHLY MEETING

## ATTENDANCE LOG RECORD

## DATE: 5/25/2018

| Attendance Record: | | |
|---|---|---|
| **Print Name** | **Signature** | **Arrival/Departure** |
| Roberta Attanasio | | |
| Timothy Denning | | 10:58 1:50 |
| Michael Hart | | 11:00 |
| Chris Ingalls | | |
| Sang-Moo Kang | | 11:00 1:55 |
| Charles Menzel | | 1058 |
| Richard Plemper | | 10:40 1:58 |
| Cynthia Roberts | | 11:00 |
| Aaron Roseberry | | 10:57 |
| Kay Lee Summerville | | 11:01 1:50 |
| Liang-Ching Tsai | | 11:05 |
| Bingzhon Xue | | |
| Liqing Yu | | |
| | | |
| Alternate: Amelia Wilkes (for Vet) | | 11:04 / |
| | | |
| ExOfficio: Dr. Weyhenmeyer | | |
| ExOfficio: Casey Kilcullen-Steiner | | 10:45 / 2:00 |
| ExOfficio: Betsy Butler | | 11:00 1:50 |
| ExOfficio: Brenda Chapman | | 11:05 |
| Compliance Officer: Casey Brinsfield | | 10 / |
| Administrative Assistant: Ravi Gandhi | | |
| | | |
| GUEST: Dean Blake | | |
| GUEST: | | |
| GUEST: | | |

**Alternates should sign their names if they are representing an absent Voting member and voting in their place. Consultants and Visitors should print their names and sign the log marking arrival and departure times as well**

**Georgia State University**
**Institutional Animal Care and Use Committee Meeting**
**Friday, April 27, 2018 11:00 AM**
**Meeting Minutes**

**Members Present:** Dr. Ingalls, Dr. Plemper, Dr. Kang, Dr. Roseberry, Dr. Hart, Dr. Menzel, Dr. Attanasio, Dr. Xue, Dr. Denning, Ms. Summerville, and Ms. Roberts

**Members Absent:** Dr. Yu and Dr. Tsai

**Alternative Member:** Not present

**Ex-Officio Member Present:** Brenda Chapman

**Liaison, EX-Officio Member to the Committee Not Present:** Ms. Kilcullen-Steiner

**IACUC/IBC Compliance Officer Present**: Casey Brinsfield

**Call to Order:**

Dr. Ingalls convened the meeting at approximately 11:02 AM when a quorum was present in

I. **Conflict of Interest Declaration**

The Conflict of Interest Declaration was emailed to the committee members and discussed at the meeting. Whenever a committee member departs the room due to a conflict of interest, it will be annotated in the "**VOTES**" section.

II. **Meeting Minutes Review**

The March 23, 2018 meeting minutes were sent via email to the members prior to the meeting.

**Motion:** A motion was made and seconded to approve the meeting minutes. There was no further discussion. All members present voted:

**Votes:** For: 10 Against: 0 Abstain: 0

*One voting member entered the room after the vote.*

III. **Protocol Reviews**

**Electronic copies of the protocols were available to IACUC members prior to the meeting.**

**A. Protocol: A18046**

**Title:** Impact of Berry Consumption on Gut Microbiota, Inflammation, and Insulin Resistance

**Summary:** This is a new, pain category D, Research Only protocol requesting to use 50 mice over a 3-year period to investigate the impact of berry consumption on gut microbiota, inflammation, and insulin resistance of mice. After a 7-day acclimatization period on a low-fat, low-sucrose diet, experimental mice will be placed into 4 groups (low-fat, low-fat + blueberry powder, low-fat + blackberry powder, low-fat + blueberry powder + blackberry powder). Control mice will be kept on a low-fat, low-sucrose diet. After 4 weeks, mice will be switched to a high-fat diet, with the exception of the control group, which will remain on the low-fat diet. Procedures involve blood and feces collection, insulin and glucose tolerance tests and MRI.

- Section 7.5, for a pain category D protocol, daily monitoring is recommended.
- Section 8.2, re-do search for fasting that does not include "for 14 h" as that is overly restrictive search criteria.
- Section 8.2, specify content of the 109 hits (categorize in subgroups if possible) and specify why none are a viable alternative.
- Section 9.1, change "drop jar" to "precision vaporizer" to match section 12.1
- Section 12.1, describe how blood will be collected at the week 16 terminal time point.
- Section 12.1, reconcile insulin dose with section 19.2.
- Section 12.1, clarify the volume of blood collected via the tail nick technique for glucometer testing. The volume of blood collected within a two-week period cannot exceed 1% of the animal's body weight.
- Section 12.1, blood is collected via retro-orbital sampling (200 microliters) at overlapping timepoints with tail nick collections. The total blood volume to be collected between the two ongoing sampling techniques needs to be determined. The total volume of blood collected within a two-week period cannot exceed 1% of the animal's body weight or 250 microliters for a typical 25-gram mouse. If fluid supplementation is provided (e.g. 2 mls of saline IP) then the blood collected can increase to 1.5% or 375 microliters. The sampling at week 16 is terminal, so indicate that the tail nick will be performed after the mouse is anesthetized for the terminal cardiac puncture (e.g. anesthetize, perform tail nicks, then perform terminal cardiac puncture). The sampling at week 8 involves the collection of ~440 microliters of blood which was preceded (week7) by 200 microliters of blood. This means that during the two-week period there is a collection of ~640 microliters of blood, twice the allowable limit. Address this issue.
- Section 13.4, the box is checked, but the method is not listed in the procedure description. Include cardiac puncture blood collection following euthanasia.
- Section 15.1, change the minimum interval between collections from 4 to 3 weeks to account for the collection at 1 week and at 4 weeks.
- Section 16.1, clarify that while 22 blood samples will be collected, there will not be 22 tail nicks. It is understood that tail nicks are conducted at weeks 7, 8, 15, and 16 and, at each of these 4 intervals, either 5 blood samples (ITT) or 6 blood samples (GTT) will be collected. As the sampling timepoints on these days are shortly interspersed (mostly intervals of 15 to 30 minutes), indicate that, on a given day, the

initial tail nick will be made followed by scab removal for the subsequent samples on a given day. Only if scab removal does not result in sufficient blood flow should an additional nick be made on a given day. No more than 8 tail nicks should be needed to collect the 22 samples.

- Section 16.1, specify the total amount of blood sampled per animal for each ITT and GTT. Confirm that combined, blood volume taken for ITTs, GTTs, and collection through retro orbital bleeding with exceed the 0.25 ml max per animal for any given 2-week period.
- Section 19.2, the dose for insulin (1 U/kg) is not consistent with the dose (0.6 U/kg) described in the narrative section 12.1.
- Section 19.2, clarify the number of times proparacaine hydrochloride is used (5 times for 4 retro-orbital bleeds).
- Section 19.2, state how the depth of anesthesia will be assessed.
- Section 22.5, select "YES".
- Section 22.7, indicate that the transfer of animals between facilities will be conducted by the DAR staff.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 10 Against: 0 Abstain: 1

**B. Protocol: A18047**

**Title:** Cognitive Testing of Rhesus Monkeys (Rhesus base protocol)

**Summary:** This is a three-year renewal of a protocol involving the use of 7 rhesus monkeys. The procedures to be done involve voluntary tests of cognitive ability, learning, etc. These tests can be either computerized tasks, or in some cases previously described and utilized manual tests.

- Section 14.4, check "other non-surgical procedures not listed" and refer to the brief description of the computerized and manual tasks described in section 13.1
- Section 16, if John D Smith will not be administering the tests to the animals and will not have any interaction with them (only designing tasks and analyzing data), he does not need to be included in the protocol and should be removed.
- Section 18.2, remove the first paragraph "For historical reasons….".

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:

**Votes:** For: 10 Against: 0 Abstain: 0

*One voting member did not participate in the discussion and vote due to a conflict*

**C. Protocol: A18039**

**Title:** Cognitive Testing of Capuchin Monkeys (Capuchin base protocol)
**Summary:** The investigators aim to understanding the basic cognitive and social-psychological functions such as perception, attention, learning, memory, categorization, planning, communication, self-monitoring, emotion, and problem-solving in capuchin monkeys. Animals will work on computerized tasks that are designed to assess various aspects of primate behavior and cognition. Alternatively, testing will be carried out with manual versions of the computerized paradigms

- Section 14.4, check "other non-surgical procedures not listed" and refer to the brief description of the computerized and manual tasks described in section 13.1
- Section 16, if John D Smith will not be administering the tests to the animals and will not have any interaction with them (only designing tasks and analyzing data), he does not need to be included in the protocol and should be removed.

**Motion:** A motion was made and seconded to return to the Principal Investigator for revisions and then return to the IACUC for Designated Member Review unless Full Committee Review is called. There was no further discussion. All members present voted:
**Votes:** For: 10 Against: 0 Abstain: 0

*One voting member did not participate in the discussion and vote due to a conflict*

## IV. Consent Agenda

### 1. Post Approval Monitoring
a. PAM Progress Summary- no changes from the previous month

### 2. LRC Updates
a. LRC updated provided

### 3. Census Report
a. April 2018 Census

### 4. Injury Report
a. No injuries to report

### 5. DAR SOP's for Triennial Review with No Revisions
a. 048.00 Housing Multiple Species
b. 057.00 Tuttnauer Table Top Autoclave

### 6. DAR Revised SOPs Triennial Review & Approval
a. 040.01 Reptile Amphibian Daily Procedures
b. 041.01 Request for Euthanasia
c. 043.01 Rodent Cage Change (Static)
d. 044.01 Appendix B NSC ABSL2

e. 044B.01 NSC ABSL2 Husbandry
f. 046.01 Rodent Changeouts (Non-Sterile)
g. 050.01 Room Fogging
h. 051.01 Room Sanitation
i. 053.01 Cold Room
j. 055.01 Sick Animal Procedures
k. 056.02 Transportation Vehicle Sanitation
l. 058.01 Van Maintenance

7. **IACUC Guidelines Revised**
   a. Social Housing of Non-Human Primates
   b. Animal Enrichment

## V. New Business/Reports

1. **Non-Compliance/Adverse event – (A18009)-Dr. Ingalls**
   After several mice underwent a surgical procedure without appropriate pain medications and an unapproved anesthetic agent, the PI self-reported noncompliance to the IACUC office and submitted a plan to prevent future occurrence. No mice had to be euthanized. Committee requested a follow-up PAM session.

2. **Programmatic Review- Dr. Ingalls**
   **Members reviewed the IACUC Semi-annual program review. No changes were requested from last evaluation.**
   **Motion:** A motion was made and seconded to return to approve the Semi-annual Program Review as submitted. There was no further discussion. All members present voted:
   **Votes:** For: 11 Against: 0 Abstain:

3. **DAR New SOP for Review**
   a. **091.00 Ferret ABSL2-** two minor changes were requested (misspelled "Verify" and change name from "respirator" to "N95"

   **Motion:** A motion was made and seconded to approve the new SOP 091.00 with the changes discussed. There was no further discussion. All members present voted:
   **Votes:** For: 11 Against: 0 Abstain: 0

4. **iMedRis Update- Dr. Ingalls**
   The IACUC continues to request that Research Solutions complete changes to the protocol form in Test mode and the protocol notification system. However, no significant changes to the protocol form have been completed since last month's update.

5. **IACUC Member PowerPoint Training- Ms. Brinsfield**
   Next IACUC Member PowerPoint Training is June 2018

6. **Other – (loose mouse)**

The committee was notified about a mouse escape through a missing cage filter in an animal housing room. The DAR staff have been retrained. The mouse has not been found but appropriate traps and additional monitoring have been implemented.

**Adjournment**

Dr. Ingalls adjourned the meeting at 12:07 PM.

Respectfully submitted by Ms. Brinsfield

# INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MONTHLY MEETING

## ATTENDANCE LOG RECORD

## DATE: 4/27/2018

**Attendance Record:**

| Print Name | Signature | Arrival/Departure | |
|---|---|---|---|
| Roberta Attanasio | | 10:55 | |
| Timothy Denning | | 10:50 | 12:10 |
| Michael Hart | | 10:55 | |
| Chris Ingalls | | 10:49 | |
| Sang-Mee Kang | | 11:10 | 12:10 |
| Charles Menzel | | 10:52 | |
| Richard Plemper | | 10:55 | 12:10 |
| Cynthia Roberts | | 11:02 | 12:10 |
| Aaron Roseberry | | 11:00 | 12:11 |
| Kay Lee Summerville | | 11:04 | 12:06 |
| Liang-Ching Tsai | | | |
| Bingzhen Xue | | 11:00 | 12:05 |
| Liqing Yu | | | |
| **Alternate:** Amelia Wilkes (for Vet) | | | |
| ExOfficio: Dr. Weyhenmeyer | | | |
| ExOfficio: Casey Kilcullen-Steiner | | | |
| ExOfficio: Betsy Butler | | 10:58 | 12:05 |
| ExOfficio: Brenda Chapman | | | |
| Compliance Officer: Casey Brinsfield | | 4/27/18 10a | |
| Administrative Assistant: Ravi Gandhi | | 10:30 | |
| **GUEST:** Dean Blake | | 11:00 | 12:06 |
| **GUEST:** | | | |
| **GUEST:** | | | |

**Alternates should sign their names if they are representing an absent Voting member and voting in their place. Consultants and Visitors should print their names and sign the log marking arrival and departure times as well**