

## UCSF IACUC Full Committee Meeting Minutes

Committee Name: IACUC Full Committee

Committee Type: IACUC

Meeting Date: 09/03/2019

Chair's Report: Voting Members:

Office Staff:

Zoom Conference Call:

Guest:

• IACUC Chair's Report

A. Guest: Introduction of potential new non-affiliated member, professor

B. Minutes

a. 8/6/2019 Full Committee Minutes (Handout)- Minutes from 8/6 Full committee were approved

Director's Report: • IACUC Director's Report

Training and Compliance  
Report:

• Training & Compliance Report

A. warning letter response, and zebrafish facility update: lab worked closely with (CVRB zebrafish core manager) to address all items on IACUC's checklist, and to establish procedures and SOPs for better management going forward. Committee voted to send lab a letter acknowledging the improvements, and to request monthly updates about permanent equipment upgrades. IACUC will visit lab again in 2 weeks for semi-annual inspection, and will continue to check at least monthly.

IACUC Member Training  
and Information:

A. Upcoming CE opportunities

• September 16, 2019 Rat Tickling Workshop

• 2019 SCAW IACUC Training Workshop: <https://scaw.com/iacuc-training-workshops/>

o September 27, 2019: New York City, NY

o November 22, 2019: Chicago, IL

• 2019 IACUC 101 Series: <https://iacuc101.org/courses/iacuc-101/>

o November 6, 7, 8, 2019: IACUC 101, 201 and 301 in Houston, TX - Hosted by Rice University

• October 13-17, 2019 AALAS National Meeting in Denver, Colorado:  
<https://www.aalas.org/national-meeting>

• November 19, 2019 AALAS Webinar "Fish Welfare and Analgesia"  
<https://www.aalas.org/store/meeting?productId=9514538>

### Protocols Reviewed

During the review process, the members discussed for each protocol, the rationale for involving animals, the appropriateness of the species, the database searches for alternatives, the steps taken to reduce animal numbers, the measures to relieve pain, discomfort or distress, if needed, the appropriateness and adequacy of anesthesia and analgesia, if applicable, and the number of animals to be used.

## USDA Covered Species

Project Number: [REDACTED]

Approval Type: Continuation

Title: Physician training in the use of the LAARIAT system

PI: [REDACTED]

Species: Dog, Swine

Primary Reviewer: (1) [REDACTED]

Secondary Reviewer: (1) [REDACTED]

Results: **Revisions Requested**

Revisions

Requested: Section G. Procedures Involving Living Animals

Category D dogs:

- Spell out the acronym ICE before using it in this section.

- Descriptions about distinctions/rationale for Epicardial vs Transeptal approaches is confusing and needs to be clarified, p.12 Points#5&6. Suggest the following: 1) Remove the heading "FOR TRANSEPTAL APPROACH, SKIP TO STEP #6"; 2) Remove the sentence "This approach may be use avoid potential complications from transeptal approach"; 3) Change the heading "TRANSEPTAL APPROACH OF LARIAT DEVICE" to something like "TRANSEPTAL APPROACH FOR THE ENDOCATH AND FINDRWIRZ"

- Point#8, p.13 - this whole paragraph is unclear and confusing. Suggest changing it to the following: "In addition, as part of the training for the treatment of AF, we will teach both epi- and endocardial electrical mapping of the LAA closure site and over the whole heart. We will also demonstrate epi- and endocardial electrophysiology ablation techniques commonly used in conjunction with LAA occlusion." And also delete the sentence "By doing both LAA ligation and ablation, we would be able to perform a percutaneous treatment of atrial fibrillation that is commonly performed with open heart surgery".

For both species:

- Please indicate whether LARC supports/assists with any of these procedures
- Explicitly state whether thoracotomy is done before/after euthanasia.

Section H. Surgery

p. 15, the word "appendage" has been left out in several places. Please correct these omissions.

J. Management and Monitoring of Adverse Effects of Procedures and Experimental Agents

- p.16, "Contrast Medium" row – the Route description should be clarified to something such as "transeptally or pericardially for guiding catheters in and about the heart"

- Anesthetics for Swine - some agents used for dogs are not included in Swine subsection (namely, Atropine & Butorphanol). Is this an oversight or are these agents just not helpful in Swine? Please clarify.



## Non-USDA Covered Species

Project Number: [REDACTED]

Approval Type: Continuation

Title: Development of Novel Epilepsy Treatments Utilizing Embryonic Progenitor Cells

PI: [REDACTED]

Species: Mouse, Rat

Primary Reviewer: (1) [REDACTED]

Secondary (1) [REDACTED]  
Reviewer:

Results: **Revisions Requested**

Revisions

Requested: Progress Report

IACUC requires additional details in this section – especially pertaining to Category E animals. Specify number of animals that have had surgery with bupivacaine only in the past 3 years. Indicate if these animals have experienced any serious issues post-operatively.

### Section C. Animal Numbers

- For rats: Clarify the use of “Category D/E” Specifically the table in C.1 does not list Category D rats. Therefore, please remove references to Category D rats. (Excerpted sentence from Section C.2: “Each of these experiments requires donor rats (acquired/bred) and 1 experimental Category D/E recipient rat (bred).”)
- For category C: table indicated total number of mice 3366 but they requested 3702 (1234X3) page 4. There is a discrepancy between table and numbers on page 5 for cat D and E (bred): table says 515 plus 475 bred and text indicates 2376 bred/3 years. Please reconcile.

### Section E. Alternatives and Justification

#### Section E.2

Specify the source of the porcine cells that you propose to use for implantation (“MGE progenitor cells will be obtained from murine/porcine sources expressing a green fluorescent protein (GFP) in all cells.”)

#### Post-approval requirement

Please schedule with IACUC staff a time for staff to observe post-operative mice that were administered bupivacaine only.

Post Approval Please schedule a time for IACUC staff to observe post-operative mice that were administered Requirements: bupivacaine only. Please [REDACTED] and use your protocol ID as the reference number [REDACTED]

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Project Number: [REDACTED]

Approval Type: New Approval

Title: Mechanisms of intestinal homeostasis, repair, and signaling

PI: [REDACTED]

Species: Mouse

Primary Reviewer: (1) [REDACTED]

Secondary (1) [REDACTED]  
Reviewer:

Results: **Approved**

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Project Number: [REDACTED]

Approval Type: New Approval

Title: Translational Research of Pulmonary Hypertension

PI: [REDACTED]

Species: Mouse, Rat

Primary Reviewer: (1) [REDACTED]

Secondary (1) [REDACTED]  
Reviewer:

Results: **Revisions Requested**

Revisions

Requested: Section C. Animal Numbers

- The n=64 acquired Cat. C mice are not described or listed in the text for Section C. Please describe the #s and usage.

- Other: There are several typos, which should be corrected: 1) under Item #10, there is a "3" which should be a "#"; 2) under item #11, there is a "3" which should be a "#" and another "3" that should be a "2" (Schistosomiasis and control), in order for calculations to come out correctly. (Note: IACUC staff has corrected typos on your behalf.)

Section G. Procedures

The committee is concerned that the animals providing fresh *Schistosoma* eggs should be

designated as Category E instead of Cat D -- given that they are likely experiencing unrelieved distress during the time that the parasites are developing and laying eggs. Please amend accordingly in the various sections where they are mentioned.

#### Mouse Experiments:

- #5 Parabiosis pg 16, 4th paragraph states, "... including weight loss greater than 20% body weight..." Correct to 15% as stated in Section J.
- #6 Pharmacologic treatments at the top of pg.17, what is the vehicle use for tamoxifen and diphtheria toxin? Describe here and add to Section I., Agents for mice.

#### Rat Experiments:

- #1 on pg. 18 bottom of first paragraph. After the 3 weeks of hypoxia, the advancement of the pulmonary hypertension include heart failure, lethargy, and fluid retention before eventual death. Please add monitoring notes here with high frequency given the rapid downturn in animal welfare. Add to Section J as well.
- #2 last paragraph on pg. 19: please add monitoring information & potential adverse effects to Section J. for iron deficiency given the 3 week forced diet.

#### Section H. Surgery

Post-operative care at the bottom of pg. 19 states, "Mice will be carefully monitored daily for one week for signs of pain and distress." But Section G, pg. 16, 2nd paragraph states that the animals will be monitored daily for 2 weeks. Reconcile the two sections.

#### Section I. Pre-Anesthetics and Anesthetics, Neuromuscular Blocking Drugs, Therapeutics, Analgesics and Experimental Agents

- Mouse agents not included: vehicle for tamoxifen and diphtheria toxin, clodronate liposomes. Reconcile.

- I.1., p.20 – entries are missing for Anesthesia Recovery Time.

#### Section J. Management and Monitoring of Adverse Effects of Procedures and Experimental Agents

##### Category D mice:

- Section J2: animals with abdominal distention should be monitored more frequently than twice per week given that abdominal distention correlates with egg burden and liver failure, and the need for euthanasia if it progresses. Please update by increasing frequency and also indicate whether there are other measureable outcomes for monitoring health, such as weight gain. Also, please see request above (Section G) re: changing their USDA pain classification from Category D to Cat E. due to unrelieved distress.

- Section J4: Please provide an operational definition for "Hunched posture or abdominal distention beyond what is normally seen in mice with schistosomal liver disease." [emphasis added] This is too general to act as a guidance for humane endpoints.

Category E mice: Section J3, bottom of pg. 26, what unresponsive lesions are expected that this endpoint would be checked "No"? Please justify.

Category E rats: Section J4, pg. 28, same as above for the mice, operational define "normally see" for the abdominal distention in order to accurately determine humane endpoint.

Category E rats: Subsection J.4. & J.5., p.28 – For consistency, the "or" in these Humane Endpoints & Experiment Endpoints should be "and". (Note: IACUC staff has edited this on your behalf by writing "and/or". Please double check this change to ensure its accuracy.)

Post Approval Please contact the IACUC office before you receive the mice that will provide the Schistosoma Requirements: eggs from Maryland to schedule a time for a LARC veterinarian to check their health following their arrival. A LARC veterinarian will also need to check them on a weekly or bi-weekly basis after that initial health check.



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## UCSF IACUC Subcommittee Meeting Minutes

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Committee Name: IACUC SubCommittee/DMR

Committee Type: IACUC

Meeting Date: 09/03/2019

Members Present: IACUC Chair (or Vice Chair): [REDACTED]

LARC Attending Veterinarian or Designee: [REDACTED]

IACUC Committee Member as Specified: [REDACTED]

Chair's Report: 1. Subcommittee Minutes

- 8/6/2019 Subcommittee Minutes (Handout)- Minutes from 8/6 Sub committee were approved

Other Business: 4. Other Business:

- PI Transfer [REDACTED] was approved

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### Protocols Reviewed

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The following protocols will be reviewed by Designated Member Review process in accordance with the PHS Policy Section IV.B.3.

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### USDA Covered Species

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Project Number: [REDACTED]

Approval Type: Annual Review

Title: Riboflavin/ultraviolet-A induced collagen crosslinking: effect on corneal permeability and other matrix properties

PI: [REDACTED]

Species: Rabbit

Results: **Approved**

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**Non-USDA Covered Species**

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Project Number: [REDACTED]  
Approval Type: Annual Review  
Title: Epilepsy research using larval zebrafish  
PI: [REDACTED]  
Species: Zebrafish  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review/Modify  
Title: Orienting the Radiation Induced Tumor Microenvironment towards Immunotherapy; Definition of Immune Infiltrate Phenotype and DNA Damage Response Deficits Across Diverse Murine Mammary Carcinomas (pending)  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: Identification and analysis of regulatory elements for heart regeneration and development  
PI: [REDACTED]  
Species: Fish  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review/Modify  
Title: Mouse Microinjection Minicore  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review  
Title: MR studies of Preclinical Models of Multiple Sclerosis  
PI: [REDACTED]  
Species: Mouse, Rat  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: Aging and Neurodegeneration Program  
PI: [REDACTED]  
Species: Mouse, Rat  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review  
Title: PSMA targeting drugs for Boron Neutron Capture Therapy  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: Plasticity and Behavioral Coding in the Rodent Brain  
PI: [REDACTED]  
Species: Rat  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review  
Title: Immunity to Infection and Cancer  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review/Modify  
Title: Neural Mechanisms of Hyperalgesia and Inflammation  
PI: [REDACTED]  
Species: Rat  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: In Vivo Evaluation of Experimental Anti-Cancer Treatment with Engineered T cells.  
PI: [REDACTED]  
Species: Mouse



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Project Number: [REDACTED]  
Approval Type: Modification  
Title: Pathogenesis of Steatohepatitis  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review  
Title: Illuminating the Dark Matter of the Genome  
PI: [REDACTED]  
Species: Mouse  
Results: **Revisions Requested**  
Revisions Requested: Needs CSA

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: The role of Neurofibromin in tumorigenesis  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**  
Post-Approval Requirements: Please schedule a surgery observation with a LARC veterinarian for the new surgeon Dr. [REDACTED]

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: Mechanisms of Brain Development  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**  
Post-Approval Requirements: Please report back to the IACUC via email on the outcomes encountered for your pilot of 6 animals

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Project Number: [REDACTED]  
Approval Type: Annual Review/Modify  
Title: Transcriptional regulation in hematopoietic development and disease  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: Core Facility for Rodent Imaging  
PI: [REDACTED]  
Species: Mouse, Rat  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: 13C Labeled Magnetic Resonance Studies of Prostate Cancer Bone metastasis in mice  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: Regulatory T cell control of autoimmunity and transplant rejection  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

## UCSF IACUC Full Committee Meeting Minutes

Committee Name: IACUC Full Committee

Committee Type: IACUC

Meeting Date: 09/17/2019

Chair's Report: Voting Members:

Office Staff:

Guests:

- IACUC Chair's Report

A. Guest: [REDACTED] (prospective IACUC member)

B. Minutes

a. 8/20/2019 Full Committee Minutes- Minutes from 8/20 Full committee were approved

Director's Report: • IACUC Office Report

Lab updates:

A. [REDACTED] zebrafish facility with chronic maintenance/sanitation issues – improved after intensive involvement from [REDACTED]. No major findings on recent inspection. Need update from Michael Nordberg on timeline for permanent equipment upgrades, and plan from lab for establishing clean colony in new system.

B. [REDACTED] mouse studies in hypoxia chambers – multiple issues related to lab management, protocol descriptions vs actual lab practices, communication with LARC, safety. Lab attended welfare training last week, is working on protocol clarifications, has detailed checklist of issues to resolve.

C. Inspection findings:

- [REDACTED] overcrowding and surgery/aseptic technique issues. To be discussed at today's subcommittee; lab will attend hands-on surgery training next week and schedule veterinary observations of some future procedures.

- [REDACTED] lentivirus-treated animals housed in LARC with no ABSL2 PPE or postings. Follow-up pending.

Attending Veterinarian  
(AV) Report:

- AV Report/LARC Clinical Case Report

A. SR buprenorphine availability: Attending Veterinarian discussed regulatory concerns - individual veterinary prescriptions required to obtain this compounded agent for lab use. EHS, LARC, IACUC, Office of Research leadership met today with UCOP lawyers to discuss legislative solution (research exemption for compounded drugs). IACUC office/LARC/EHS will notify labs of SR buprenorphine unavailability, and provide guidance on how to substitute regular buprenorphine for peri-operative analgesia.

IACUC Member Training  
and Information:

- Committee Information and Training

A. [REDACTED] Presentation – Cephalopods & Animal Welfare considerations

B. Upcoming CE opportunities

- 2019 SCAW IACUC Training Workshop: <https://scaw.com/iacuc-training-workshops/>

- o September 27, 2019: New York City, NY
- o November 22, 2019: Chicago, IL

- 2019 IACUC 101 Series: <https://iacuc101.org/courses/iacuc-101/>

- o November 6, 7, 8, 2019: IACUC 101, 201 and 301 in Houston, TX - Hosted by Rice University

- October 13-17, 2019 AALAS National Meeting in Denver, Colorado:  
<https://www.aalas.org/national-meeting>

- November 19, 2019 AALAS Webinar "Fish Welfare and Analgesia"  
<https://www.aalas.org/store/meeting?productId=9514538>

### Protocols Reviewed

During the review process, the members discussed for each protocol, the rationale for involving animals, the appropriateness of the species, the database searches for alternatives, the steps taken to reduce animal numbers, the measures to relieve pain, discomfort or distress, if needed, the appropriateness and adequacy of anesthesia and analgesia, if applicable, and the number of animals to be used.

### USDA Covered Species

Project Number: [REDACTED]

Approval Type: New Approval

Title: Injectable disulfide-crosslinked hydrogels for sustained drug delivery

PI: [REDACTED]

Species: Rabbit

Primary Reviewer: (1) [REDACTED]

Secondary Reviewer: (1) [REDACTED]

Results: **Approved**

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**Non-USDA Covered Species**


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Project Number: [REDACTED]

Approval Type: New Approval

Title: NGF Signaling in Bone Formation

PI: [REDACTED]

Species: Mouse

Primary Reviewer: (1) [REDACTED]

Secondary (1) [REDACTED]  
Reviewer:Results: **Revisions Requested**

Revisions -I.5: Add NGF to your list of experimental agents.

Requested: -J.1: Under "osteoporosis" as adverse effect, you said "Antibiotics will be given for animals undergoing surgery...". Specify which antibiotics you are referring to.

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Project Number: [REDACTED]

Approval Type: Modification

Title: Study on the effect of Icaritin and Low-Intensity Extracorporeal Shockwave Therapy for preservation of erectile function due to neurogenic erectile dysfunction.

PI: [REDACTED]

Species: Mouse, Rat

Primary Reviewer: (1) [REDACTED]

Secondary (1) [REDACTED]  
Reviewer:Results: **Revisions Requested**      Return to Full Committee

Revisions The IACUC has significant animal welfare concerns about the Hindlimb Unloading/Reloading Requested: (HUR) (Fixation and Removal) model, and requires that you modify the protocol to address the revisions listed below, and then resubmit it in RIO. Several members of the committee expressed concern about animal welfare with this model – immobilization in an extended position for a long period of time – and would like more details to support the request and to provide a stronger treatment plan for side effects of the immobilization. In addition, Dr. Clifford Roberts has seen that this wire-wrapping technique was tried unsuccessfully at the VAMC-SF and the investigators there have now abandoned this approach to use 3D-printed casts for the mouse hind limb immobilization.

The IACUC requires that the resubmission addressing these concerns (detailed below) be reviewed at a subsequent IACUC meeting:

- Section E.2.4. Explain why the HUR model specifically (verses other models) is required to answer your scientific questions. Additionally, explain why the fixation must be in place for two weeks and why the hindlimb must be set at such an extreme right angle to the trunk (at the hip joint), which seems likely to cause serious discomfort, restriction, and distress.

- Section E.2.4 and Section J.1 (Category E Mice),

- [REDACTED] noted that the protocol inaccurately references him stating, "Pain killers don't work well so he suggested the lab to not to use them at all." Please remove this statement.

- The justification provided for not using analgesics in the HUR model - which is that analgesics may not be as effective as fixation removal for relieving pain or distress - is not a strong rationale for withholding analgesics altogether. Please justify why analgesics will not be used to minimize discomfort.



If you prefer to not wait for IACUC meeting review of the HUR model revisions before starting IRI model studies, the IACUC will approve the Modification describing the unilateral hindlimb Ischemic-Reperfusion Injury (IRI) (Rubber Band Tourniquet to the Thigh) model only. You must first remove all details of the HUR model from the protocol and resubmit the current Modification in RIO without it. If you wish to later launch a separate new Modification in RIO to request the HUR model:

- Re-enter HUR model details back into applicable sections of a new Modification.
- Address the required revisions listed above.

## UCSF IACUC Subcommittee Meeting Minutes

Committee Name: IACUC SubCommittee/DMR

Committee Type: IACUC

Meeting Date: 09/17/2019

Members Present: IACUC Chair (or Vice Chair):

LARC Attending Veterinarian or Designee:

IACUC Committee Member as Specified: [REDACTED]

Chair's Report: Voting Members: [REDACTED]

1. Subcommittee Minutes

- 8/20/2019 Subcommittee Minutes- Minutes from 8/20 subcommittee were approved

Training and Compliance  
Report:

2. Training & Compliance Report

- [REDACTED] adverse event (Protocol [REDACTED], mice): Subcommittee reviewed report of higher than expected morbidity/mortality in 3 cohorts of mice following irradiation. LARC investigation ruled out irradiator function, cell contamination. Common factor appeared to be mice from one vendor shipment. Subcommittee voted to send acknowledgement letter, request that lab increase monitoring of mice post-irradiation and report any additional mortalities to IACUC.

- [REDACTED] surgery observation ([REDACTED] zebrafish): Veterinarian reported on observation of ventricular amputation procedure, will schedule a second observation to ensure improvement in aseptic technique.

- [REDACTED] overcrowding and surgery issues ([REDACTED] mice): Subcommittee reviewed reports of September semi-annual inspection findings, and voted to send a warning letter.

1. Overcrowded breeding cages (repeat finding from March and June inspections). PI will limit lab staff to pair breeding, and designate technician to full time colony management.
2. Animals not aseptically prepared for surgery. On follow up visit to lab, IACUC staff found unattended anesthetized animals in housing room, and incomplete surgery records.

Lab may not perform surgery until re-training is complete – anesthesia/surgery training, evaluation using IACUC surgery proficiency rubric, LARC vet observation, follow-up LARC vet observation after resuming surgery.

Other Business: - PI [REDACTED]: [REDACTED] was approved

### Protocols Reviewed

The following protocols will be reviewed by Designated Member Review process in accordance with the PHS Policy Section IV.B.3.

### USDA Covered Species

Project Number: [REDACTED]

Approval Type: Annual Review/Modify

Title: Use of Sentinel Animals

PI: [REDACTED]

Species: Hamster, Mouse, Rat, Vole

Results: **Approved**

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**Non-USDA Covered Species**

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Project Number: [REDACTED]

Approval Type: Modification

Title: Cellular mechanisms of neuromodulation

PI: [REDACTED]

Species: Mouse

Results: **Approved**

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Project Number: [REDACTED]

Approval Type: Modification

Title: In Vivo Evaluation of Experimental Anti-Cancer Therapeutics

PI: [REDACTED]

Species: Mouse

Results: **Approved**

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Project Number: [REDACTED]

Approval Type: Annual Review

Title: Molecular Regulation of Cell Migration and Survival in Lymphoid Organs

PI: [REDACTED]

Species: Mouse, Rat

Results: **Revisions Requested**

Revisions Requested:

1. Section J: Please increase monitoring to daily for the window of days 4-7 after irradiation.
2. Please correct SOP for antibiotic water usage to specify for only NSG or immunodeficient strains.
3. Please correct the antibiotic water in agents section to reflect change above.

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Project Number: AN173372-02C

Approval Type: Modification

Title: Targeting Signaling Pathways in Head and Neck Cancer

PI: **Grandis, Jennifer**

Species: Mouse

Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review  
Title: Ion Channel Function in Pancreas and Cancer  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED] F  
Approval Type: Modification  
Title: Physiology of ion channels and receptors  
PI: [REDACTED]  
Species: Mouse  
Results: **Revisions Requested**  
Revisions: In Section G. for the modified rabies virus experiment with enema injection, can you clearly  
Requested: state that mice fasted for 16 hrs will still have access to water?

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: Optical Deconstruction of Hippocampal Circuits that Control Behavior  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: Functional and molecular mapping of feeding circuits  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review  
Title: Pulse Sequence Development for Hyperpolarized <sup>13</sup>C Imaging  
PI: [REDACTED]  
Species: Rat  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review/Modify  
Title: Stem cells in bone development and repair  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review  
Title: V2a interneurons for spinal cord injury repair  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review  
Title: Abnormalities and Targeting of Tumor Vasculature  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Annual Review/Modify  
Title: Neurobiology of Disease Program  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED] C  
Approval Type: Modification  
Title: GPR56 signaling in brain development, disease and injury  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: Brain Irradiation Affects Neuronal Function  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: The role of mitochondrial superoxide in vascular restenosis  
PI: [REDACTED]  
Species: Mouse, Rat  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: Analysis of tumor suppressors and oncogenes in mouse models of cancer  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED] A  
Approval Type: Modification  
Title: Plasticity of Cell-Cell Interactions  
PI: [REDACTED]  
Species: Mouse  
Results: **Approved**

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Project Number: [REDACTED]  
Approval Type: Modification  
Title: Genetic Programming of Angiogenesis  
PI: [REDACTED]  
Species: Mouse, Rat  
Results: **Approved**

Project Number: [REDACTED]

Approval Type: Modification

Title: Extracellular matrix and mammary gland transformation

PI: [REDACTED]

Species: Mouse

Results: **Approved**

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Project Number: [REDACTED]

Approval Type: Annual Review/Modify

Title: Perilacunar Bone Remodeling in Osteoarthritis

PI: [REDACTED]

Species: Mouse

Results: **Approved**