INSTITUTIONAL BIOSAFETY COMMITTEE

UNIVERSITY of WASHINGTON

Meeting Minutes

Date: Wednesday, September 16, 2015
Time: 10:00 AM – 12:00 PM

Location: Foege N-130A

Members Present:
1. H.D. "Toby" Bradshaw, Biology *(Plant Expert)*
2. Lesley Colby, Comparative Medicine *(Animal Containment Expert)*
3. Elizabeth Corwin (*Human Gene Transfer Expert; IBC Vice Chair*)
4. William Glover, Washington State Public Health Laboratories (*Community Member*)
5. Jean Haulman, UW Travel Clinic
6. David Koelle, Allergy and Infectious Diseases
7. Stephen Libby, Laboratory Medicine (*IBC Chair*)
8. Jason Smith, Microbiology

Commonly Used Abbreviations
IBC: Institutional Biosafety Committee
BSO: Biological Safety Officer
BUA: Biological Use Authorization
BSL: biosafety level
PI: Principal Investigator
IACUC: Institutional Animal Care and Use Committee
NIH: National Institutes of Health
DURC: Dual Use Research of Concern
SOP: standard operating procedure

1. **CALL TO ORDER:** The Institutional Biosafety Committee (IBC) Chair called the meeting to order at 10:03 am. A quorum was present.

2. **REMINDER:** The IBC Chair reminded attendees that any notes that they retain are subject to public disclosure. A statement was also made about conflict of interest and voting on research proposals as described in the IBC Charter. This includes sharing a grant or a familial relationship.

3. **APPROVAL OF MINUTES:**
   - The IBC Chair sought a motion to approve the minutes from the August 19, 2015 meeting.
   - A member made a motion to approve the August 19, 2015 minutes. Another member seconded the motion.
   - The committee voted unanimously, with three abstentions, to approve the August 19, 2015 meeting minutes.

4. **BIOSAFETY OFFICER (BSO) REPORT***:* The Biosafety Officer Report includes (1) projects involving recombinant or synthetic nucleic acids covered under section III-E and III-F of the *NIH Guidelines,* (2) proposals involving non-recombinant biohazardous agents requiring BSL-1 and BSL-2 containment, and (3) administrative updates, such as room additions.

   a. Biosafety Officer Report
      - The IBC Chair sought a motion to approve this month's Biosafety Officer Report.
      - Dr. Thummel, Dr. Gao, Dr. Steiner, Dr. Murry, and Dr. Muller each added a new room to their respective approvals.
      - Dr. Gale added Enterovirus D for in-vitro use to his approval.
      - Dr. Smedley received a new BUA approval to work with non-recombinant simian retrovirus in vitro and in macaques.
      - The principal investigator of the project "Stem Cells and Regeneration of the Spinal Cord" was changed from Dr. Horner to Dr. Sellers.
      - Dr. Scott and Dr. Marcovina each renewed a BUA involving the use of human blood.
      - Dr. Disis added human cells used in mice.
      - Dr. Patton renewed a BUA involving non-recombinant Chlamydia trachomatis used in vitro and in macaques.
      - The principal investigator of the project "Pre-Clinical Models, Mechanisms, and markers of Prostate Cancer and Prostate Cancer Metastasis" was changed from Dr. Vessella to Dr. Corey.
      - Dr. O'Donnell renewed a BUA involving human cells in mice.
      - A member made a motion to approve this month's Biosafety Officer Report. Another member seconded the motion.
      - The Committee unanimously voted to approve this month's Biosafety Officer Report.

5. **CATEGORY III-D AMENDMENTS**

   1. Woodward, Joshua, change, *Pathogenesis of Listeria monocytogenes and Staphylococcus aureus*
      - The biosafety officer presented the project.
      - The assigned IBC member endorsed the biosafety officer's review.
      - The investigator wishes to use S. aureus in mice. He is already approved to use S. aureus in vitro.

- The draft BUA letter was shown.
- The assigned IBC member made a motion to approve the draft BUA for Dr. Woodward. A second is not needed since he endorsed the review.
- The IACUC protocol has not yet been submitted.
- The Committee voted unanimously to approve the draft BUA for Dr. Woodward, pending biosafety officer review of the IACUC protocol.

6. INDIVIDUAL PROJECT REVIEWS

2. Altemeier, William, change, *Inflammatory Response Modulation by Mechanical Ventilation*

- The assigned IBC Primary Reviewer presented the Primary Review.
- Biohazardous agents used on the project include gammaretroviral vectors, adenoviral vectors, adeno-associated viral vectors, and lentiviral vectors, all used in vitro. *Staphylococcus aureus* will also be used in vitro and in mice.
- The biosafety training expired last week, so Dr. Altemeier will need to retake it.
- The lab was inspected by the biosafety officer and everything is in good order.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Altemeier. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Altemeier, pending completion of the biosafety training.

3. Brenowitz, Eliot, renewal, *Comparative Studies of Vocal Control*

- The assigned IBC Primary Reviewer presented the Primary Review.
- Lentiviral vectors and foamy viral vectors are used in vitro and in birds. The research is conducted at BSL-1 and ABSL-1. The viral vectors have been tested negative for replication-competent virus. A note on the front page of the BUA letter specifies that only RCV-tested viral vectors can be used.
- The investigator mentions human cells in question 2, but no human cells are used on this project. The reference to human cells in question 2 should be deleted.
- The required training has been completed.
- The lab was inspected by the biosafety officer and everything is in good order.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Brenowitz. A second is not needed since she is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Brenowitz, pending correction of question 2.

4. Davis, Jennifer, new, *The cellular and molecular mechanism of cardiac wound healing and fibrotic remodeling*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a new investigator. The goal of the research is to identify the cells that are required for the fibrotic response to injury in the heart, skeletal muscle, and skin.
- Adenoviral vectors and adeno-associated viral vectors are used in vitro and in mice.
- The draft BUA letter was shown.
- The required training has been completed.
- The inspection will occur tomorrow.

- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Davis. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Davis, pending successful completion of the lab inspection.

5. Faustman, Elaine, renewal, *Mechanistic study of the development toxicity of environmental toxicants using primary cell culture system technology*

- The assigned IBC Primary Reviewer presented the Primary Review.
- Biohazardous agents used on the project include human blood and lentiviral vectors.
- Many hazardous chemicals and heavy metals are used on this project. The lab has received an occupational health recommendation and an industrial hygienist has also consulted with the lab.
- The required training has been completed, and the lab was inspected by the biosafety officer.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Faustman. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Faustman.

6. Greenberg, Philip, renewal, *Mechanisms of Murine Tumor Eradication*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This project utilizes viral vectors (adenoviral vectors, gammaretroviral vectors, and lentiviral vectors) as well as *Listeria monocytogenes* and lymphocytic choriomeningitis virus.
- The draft BUA letter was shown.
- A question was raised about ecotropic gammaretroviral vectors. The ecotropic gammaretroviral vectors on this project are used at BSL-2 containment if oncogenic inserts are present, and BSL-1 containment if no oncogenic inserts are used.
- The biosafety officer clarified that the investigator has listed four oncogenic gene inserts.
- The IACUC renewal has not yet been submitted. The biosafety officer will need to review it after it is submitted.
- The lab has been inspected, and the training has been completed.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Greenberg. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Greenberg, pending biosafety officer review of the IACUC protocol.

7. Kelly, Edward, renewal, *In Vivo Function of CYP4BI; Generation of Induced Pluripotent Stem Cells*

- The assigned IBC Primary Reviewer presented the Primary Review.
- Biohazardous agents used on this project include human cells and lentiviral vectors.
- The training has been completed, but the lab needs to be inspected.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Kelly. A second is not needed since he is the Primary Reviewer.

- The Committee voted unanimously to approve the draft BUA for Dr. Kelly, pending successful completion of the lab inspection.

8. Lee, Kelly, renewal, *Influenza Virus Structural Biology*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The lab uses human cells and several influenza strains (X31 and A/PR/8).
- A discussion occurs regarding X31 influenza strains.
- The committee discussed whether this strain meets the definition of "recombinant." The X31 strains are called recombinant in an original paper, but it may actually be reassortant. The committee discussed this.
- The committee discussed the biosafety level of X31 and whether this strain may be able to infect humans. Currently, the X31 strain has been listed as BSL-1 and ABSL-1 on BUA letters. However, a journal article that states that X31 is only semi-attenuated was submitted by the PI. A study conducted in the 1970s found that human study volunteers who were infected with X31 developed influenza symptoms. The symptoms were mild, but this study indicates the X31 strain is pathogenic to humans.
- The committee discussed and decided that (1) the X31 strain is recombinant and falls under section III-D of the NIH Guidelines and (2) the X31 strain should be conducted at BSL-2 / ABSL-2 containment.
- The lab has been inspected and the training has been completed.
- The draft BUA letter was shown.
- Question 21 and question 45 need to be corrected.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Lee. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Lee, pending correction of the application.

9. Oberst, Andrew, renewal, *Programmed Cell Death and Immunity*

- The assigned IBC Primary Reviewer presented the Primary Review.
- Biohazardous agents used on this project include lentiviral vectors, gammaretroviral vectors, adenoviral vectors, and influenza virus strains.
- The draft BUA letter was shown.
- A discussion occurred regarding the biosafety level written on the BUA letter. The biosafety level on the BUA letter is the minimum biosafety level required for human health. For example, a virus that is deadly to mice but innocuous for humans would be listed at BSL-1, even though enhanced containment practices would be used in the vivarium to protect the health of the animal colony.
- This investigator is also using the X31 influenza strains previously discussed. The letter will be changed to reflect the IBC's decision (BSL-2/ABSL-2 and III-D).
- The IACUC renewal has not yet been submitted. The biosafety officer will need to review it after it is submitted.
- The lab has been inspected and the training has been completed.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Oberst. A second is not needed since she is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Oberst, pending biosafety officer review of the IACUC protocol.

10. Papayannopoulou, Thalia, renewal, *Biological Properties of Stem Cells; Homing Determinants of Hematopoietic Stem and Progenitor Cells; Beta-1 Integrins in Erythropoiesis; Gene Therapy for Hemoglobinopathies: Bone Marrow Conditioning*

- The assigned IBC Primary Reviewer presented the Primary Review.
- Biohazardous agents used on this project include gammaretroviral vectors, adenoviral vectors, and lentiviral vectors.
- The draft BUA letter was shown.
- The training has been completed, but some outstanding issues from the lab inspection need to be corrected.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Papayannopoulou. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Papayannopoulou, pending resolution of the lab inspection deficiencies.

11. Paredez, Alexander, renewal, *Cytoskeletal characterization in Giardia intestinalis*

- The assigned IBC Primary Reviewer presented the Primary Review.
- *Giardia intestinalis*, *Trichomonas vaginalis*, and baculovirus are used on this project.
- The lab has been inspected and the training has been completed.
- The draft BUA letter was shown.
- The lab has been inspected by the biosafety officer and the training has been completed.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Paredez. A second is not needed since she is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Paredez.

12. Stone, Jennifer, renewal, *Development and regeneration of auditory and vestibular system*

- The assigned IBC Primary Reviewer presented the Primary Review.
- Adenoviral vectors and plasmid DNA are used on this project.
- A discussion occurred regarding the adenoviral vectors.
- The letter needs to be revised to list adenoviral vectors (tested negative for RCV) at BSL-2.
- The draft BUA letter was shown.
- The lab has been inspected by the biosafety officer and the training has been completed.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Stone. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Stone, pending revision of the BUA letter.

13. Wong, Rachel, change, *Development of the retina (mouse)*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The investigator is requesting to add adeno-associated viral vectors to be used in mice.
- The primary review makes a reference to adenoviral vectors, but no adenoviral vectors are used on the project. Only adeno-associated viral vectors will be used.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Wong. A second is not needed since he is the Primary Reviewer.

- The Committee voted unanimously to approve the draft BUA for Dr. Wong.

SUBCOMMITTEE REPORTS:

14. Gale, Michael, change, *The Host Response to Virus Infection*

- The biosafety officer and subcommittee reviewers working on this project updated the committee on the current status of the project.
- This is a change request. The lab is requesting to work with three new non-recombinant strains of Hantavirus: Andes, Hantaan, and Sin Nombre. The Seoul strain is already approved on this project. The strains will be used in-vitro. No animal work is requested.
- There is a distinction in the CDC guidelines between "lab-scale" and "large-scale" production of virus. The Gale lab will be using amounts of virus that fall under "lab-scale" production. An exact estimate for how much has not yet been provided.
- There are case studies showing that the Andes virus can be transmitted from human to human. With the other strains, human-to-human transmission is potentially possible, but has not been shown.
- Occupational health procedures are still being established. The project will be deferred to the next IBC meeting pending completion of the occupational health policies and procedures.

15. Maloney, David, new, *Phase I study of adoptive immunotherapy for advanced ROR1+ malignancies with defined subsets of autologous T cells engineered to express a ROR1-specific chimeric antigen receptor*

- Two members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report, which is attached.
- This is a new proposal. The potential study participants have ROR1+ hematologic malignancies, including chronic lymphocytic leukemia (CLL), acute lymphoblastic leukemia (ALL), or mantle cell lymphoma (MCL). Participants with advanced triple negative breast cancer or non-small cell lung cancer will also be enrolled. This study will utilize a promising new therapy called adoptive immunotherapy, which uses a patient's own immune T cells that are engineered with a lentiviral vector to carry a synthetic tumor-seeking molecule and then re-administered to the patient.
- The lentiviral vector is prepared at Fred Hutchinson Cancer Research and then re-infusion of the transduced cells will be performed at the University of Washington Medical Center or Seattle Cancer Care Alliance under BSL-2 containment.
- The subcommittee reviewed the informed consent documents and were of the opinion that they adequately addressed the risks of the protocol. The Recombinant DNA Advisory Committee conducted a preliminary review and determined that an in-depth review was not warranted.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Maloney. Another member seconded the motion.
- The Committee voted unanimously to approve the draft BUA for Dr. Maloney.

FOR YOUR INFORMATION:

The IBC Chair announced that there would be subcommittees formed in the next few months to review issues including biocontainment for influenza strains, freezer storage, chlamydia excretion from rabbits, and occupational health considerations for influenza in mice.

ISSUES FROM THE FLOOR & PUBLIC COMMENTS:
There were no issues from the floor, and no public comments.

MEETING ADJOURNED AT APPROXIMATELY 12:05 p.m.