INSTITUTIONAL BIOSAFETY COMMITTEE

UNIVERSITY of WASHINGTON

Meeting Minutes

Date: Wednesday, July 17, 2024
Time: 10:00 a.m. – 12:00 p.m.

Location: Zoom

Members Present:

1. Jason Cantera *(Community Member)*
2. Lesley Colby, Comparative Medicine *(Animal Containment Expert)*
3. Lesley Decker, Environmental Health & Safety (*Biosafety Officer*)
4. Erin Heiniger, Department of Bioengineering *(Laboratory Specialist*)
5. Richard Grant, Washington National Primate Research Center
6. Stephen Libby, Laboratory Medicine *(Animal Containment Expert)*
7. Scott Meschke, Environmental & Occupational Health Sciences
8. Susan Parazzoli *(Community Member)*
9. Jason Smith, Microbiology (*IBC Chair*)
10. Paul Swenson, Seattle-King Co. Dept. of Public Health (*Community Member*)

Commonly Used Abbreviations
AAV: adeno-associated viral vector
BSL: Biosafety level
BSL-2w/3: BSL-2 with BSL-3 practices
BSO: Biosafety officer
BUA: Biological Use Authorization
DURC: Dual Use Research of Concern
IACUC: Institutional Animal Care and Use Committee
IBC: Institutional Biosafety Committee
iPS: induced pluripotent stem cells
NHP: non-human primate
NIH: National Institutes of Health
PI: Principal Investigator
rDNA: Recombinant or synthetic DNA/RNA
RG: Risk Group
SOP: standard operating procedure
Source material: blood, tissue, body fluids, and cell lines

1. **CALL TO ORDER:** The Institutional Biosafety Committee (IBC) Chair called the meeting to order at 10:00 a.m. 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 June 18, 2024, and June 26, 2024, meetings.
   - A member made a motion to approve the June 18, 2024, and June 26, 2024, meeting minutes. Another member seconded the motion.
   - The committee voted unanimously to approve the June 18, 2024, and June 26, 2024, meeting minutes.

4. **OLD BUSINESS:**
   - At the June 18, 2024 meeting, Dr. Crisa's BUA was approved pending changing the biosafety level for feline immunodeficiency virus (FIV) vectors and successful completion of the inspection. This BUA is still pending.
   - At the June 18, 2024 meeting, Dr. Liu's BUA was approved pending successful completion of the lab inspection and review of the animal protocol. This BUA is still pending.
   - At the June 18, 2024 meeting, Dr. Marchiano's BUA was approved pending successful completion of the lab inspection. This BUA is still pending.
   - At the June 18, 2024 meeting, Dr. Raskind's BUA was approved pending successful completion of the lab inspection. This BUA is still pending.
   - At the June 18, 2024 meeting, Dr. Greninger's BUA was approved pending updates to the medical management plan. This BUA is still pending.

5. **BIOSAFETY OFFICER (BSO) REPORT***:* The Biosafety Officer Report includes projects involving: (1) recombinant or synthetic nucleic acids covered under Sections III-E and III-F of the *NIH Guidelines,* (2) non-recombinant biological agents requiring BSL-2 with BSL-3 practices containment or lower, and (3) administrative updates, such as room additions.
   a. Biosafety Officer Report
      - Dr. Duthie added rats to experiments that were previously approved in mice to the new BUA *Novel immunization strategies to protect against infectious disease.* (Section III-D)
      - Dr. Giachelli registered new in vitro work with human iPSCs generated using previously approved viral vectors and new gene inserts for viral vectors.
      - Dr. Fuller added enhanced gene delivery methods for administration of rDNA to NHPs to the *Prophylactic SHIV Vaccines in NHP* BUA. The rDNA used in NHPs had already been reviewed by the IBC. (Section III-D)
      - Dr. Khaledi added new lab locations for use with previously approved agents to the *Analysis of Human and Mammalian Tissue and Blood Samples for Lysosomal Storage Diseases* BUA.
      - Dr. MacCoss renewed work with human source material at BSL-2 on the BUA *Biomarker Proteomics*.
      - Dr. Yager renewed in vitro BSL-2 work with several wildtype Risk Group 2 pathogens, including influenza viruses, Chlamydia trachomatis, and Staphylococcus aureus, and rDNA at BSL-1 on the *Point-of-Care Diagnostics* BUA. (Section III-F)

- Dr. O'Keefe renewed work with human source material at BSL-2 on the *Sample Processing for Clinical Research Studies* BUA.
- Dr. Anderson started new work at BSL-1 with rDNA and lab strains of E. coli on the *Primary Bioscience BUA application for recombinant protein expression in E. coli* BUA. (Sections III-E and III-F)
- Dr. Bamshad renewed work with rDNA and human source material on the *Center for Clinical Genomics* BUA. (Section III-F)
- Dr. Qu registered in vivo work with mouse cells on the *Mechanisms of Complex Musculoskeletal Tissue Regeneration* BUA.
- Dr. Robins started new in vitro work at BSL-1 with rDNA and lab strains of E. coli on the *Protein Expression in BL21DE3* BUA. (Sections III-E and III-F)
- Dr. Dunham renewed work with many wildtype and recombinant Risk Group 1 yeasts and bacteria, lab strains of E. coli, and rDNA at BSL-1 on the *Genome Evolution in Yeast* BUA. (Sections III-E and III-F)
- Dr. Polyak added work with wildtype Risk Group 2 human coronaviruses at BSL-2 on the *Virus-Host Interactions in Cell Culture* BUA.
- The IBC Chair a motion to approve this month's Biosafety Officer Report.
- 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.

6. BSL-3 INACTIVATION REPORT

- Dr. West requested approval for methanol and dithiobis (succinimidyl propionate) (i.e., DSP or Lomant's reagent) inactivation of tissues infected with Burkholderia pseudomallei.
- The subcommittee reviewed the procedures and inactivation data provided by the lab and approved their requests.
- The IBC Chair made a motion to approve this month's BSL-3 Inactivation Report.
- The committee voted to approve this month's BSL-3 Inactivation Report.

7. INDIVIDUAL PROJECT REVIEWS

a. Carroll, Jeffrey, change, *HTT Lowering Studies in HD Knock-in and Knock-out Mouse Models*

- Sections III-D, III-E, and III-F
- The assigned IBC Primary Reviewer presented the Primary Review.
- The Carroll lab aims to understand the effects of loss of HTT in mouse models.
- This lab works with AAV and enhanced gene delivery methods.
- The lab was inspected, and all deficiencies have been corrected.
- All required trainings are complete.
- The IACUC protocol is still pending.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Carroll.
- The Committee voted unanimously to approve the draft BUA for Dr. Carroll.

b. Cirulli, Vincenzino, renewal, *Role of Cell Adhesion Molecules In Islet Biology*

- Sections III-D, III-E, and III-F
- The assigned IBC Primary Reviewer presented the Primary Review.

- The Cirulli lab aims to generate insulin-producing cells as a potential cell-based therapy for diabetes.
- This lab works with human source material and Sendai viral vectors with oncogenes at BSL-2. They also work with AAV, lab strains of E. coli, and rDNA at BSL-1.
- A lab inspection has been performed and is still pending a response.
- All required trainings are complete.
- This project has an IACUC protocol in review.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Cirulli.
- The Committee voted unanimously to approve the draft BUA for Dr. Cirulli, pending successful completion of the lab inspection.

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

- Section III-D, III-E, III-F
- The assigned IBC Primary Reviewer presented the Primary Review.
- This lab investigates the fibrotic response to injury in the heart, skeletal muscle, and skin and the molecular signals involved with production of fibrotic materials.
- This lab works with AAV, lab strains of E. coli, and rDNA at BSL-1. They use adenoviral and lentiviral vectors at BSL-2 and gammaretroviral vectors with oncogenes at BSL-2 with BSL-3 practices. They administer AAV, gammaretroviral vectors, and transfected mouse and human cells to mice and rats.
- A lab inspection is scheduled for after the IBC meeting.
- All required trainings are complete.
- This project has an IACUC protocol in review.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Davis.
- The Committee voted unanimously to approve the draft BUA for Dr. Davis, pending successful completion of the lab inspection.

d. De la Iglesia, Horacio, renewal, *Neural Control of Circadian Rhythms*

- Sections III-D and III-F
- The assigned IBC Primary Reviewer presented the Primary Review.
- The de la Iglesia lab seeks to understand how rhythmic processes such as the sleep-wake cycle, release of hormones, and mood are modulated by biological clocks, and how these clocks are affected by environmental challenge, such as jetlag and other temporal disruptions.
- The lab administers AAV to mice at ABSL-1 and works with plasmids and lab strains of E. coli in vitro at BSL-1.
- A lab inspection has been performed and is still pending a response.
- All required trainings are complete.
- This project has an IACUC protocol in review.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. De la Iglesia.
- The Committee voted unanimously to approve the draft BUA for Dr. De la Iglesia, pending a response to the lab inspection.

e. Del Alamo, Juan Carlos, renewal, *Biomechanics of amoeboid cell migration*

- Sections III-D, III-E, and III-F
- The assigned IBC Primary Reviewer presented the Primary Review.
- The Del Alamo lab's research focuses on understanding amoeboid cells migration and the biomechanics of cell movement.
- This lab works with human cells transduced with Sendai viral vectors with oncogenes, third generation lentiviral vectors, and human cells at BSL-2. They work with rDNA, rDNA with enhanced gene delivery methods, and Dictyostelium discoideum at BSL-1.
- The lab inspection is scheduled for after the IBC meeting.
- All required trainings are complete.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Del Alamo.
- The Committee voted unanimously to approve the draft BUA for Dr. Del Alamo, pending successful completion of the lab inspection.

f. Derdeyn, Cindy, change *Virus neutralization, diversity, and B cell immunology*

- Section III-D
- The assigned IBC Primary Reviewer presented the Primary Review.
- The Derdeyn lab is adding administration of recombinant simian-human immunodeficiency virus (SHIV) to NHPs.
- A lab inspection was not required as all work takes place inside a vivarium.
- All required trainings are complete.
- This project has an IACUC protocol in review.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Derdeyn.
- The Committee voted unanimously to approve the draft BUA for Dr. Derdeyn.

g. Koelle, David, change, *Koelle Laboratory at UW*

- Sections III-D
- The assigned IBC Primary Reviewer presented the Primary Review.
- The Koelle lab is adding mRNA packaged in lipid nanoparticles to use as a vaccine candidate in mice.
- The lab will administer mRNA vaccines encoding short epitope containing regions of herpes simplex virus type 2 (HSV-2) and SARS-CoV-2 that are known to activate CD8 T cells to mice at ABSL-1.
- A lab inspection was not required as the lab was recently inspected.
- All required trainings are complete.
- This project has an IACUC protocol in review.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Koelle.
- The Committee voted unanimously to approve the draft BUA for Dr. Koelle.

h. Papayannopoulou, Thalia, renewal, *Gene therapy for hemoglobinopathies: bone marrow conditioning*

- Section III-D and III-E
- The assigned IBC Primary Reviewer presented the Primary Review.

- The Papayannopoulou lab studies changes in fetal globin genes and their effects on the maturation of hematopoietic cells.
- This lab cultures human cells and receives human and murine cells transduced with lentiviral vectors for administration to mice at ABSL-2. They also administer RNA lipid nanoparticles into mice at ABSL-1.
- The lab was inspected and no deficiencies were noted.
- All required trainings are complete.
- The IACUC protocol is still pending.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Papayannopoulou.
- The Committee voted unanimously to approve the draft BUA for Dr. Papayannopoulou.

i. Perkel, David, renewal, *Neural Circuits for Auditory and Vocal Processing*

- Section III-D
- The assigned IBC Primary Reviewer presented the Primary Review.
- The Perkel lab studies auditory processing and motor skill learning in birds.
- This lab uses AAV and third generation lentiviral vectors to introduce fluorescent reporter genes into the neurons of zebra finches and white-crowned sparrows to track these auditory processing and motor skill learning.
- A lab inspection has been performed and is still pending a response.
- All required trainings are complete.
- This project has an IACUC protocol in review.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Perkel.
- The Committee voted unanimously to approve the draft BUA for Dr. Perkel, pending a response to the lab inspection.

j. Rasmussen, Jeffrey, renewal, *Interplay between skin and axons*

- Section III-D and III-F
- The assigned IBC Primary Reviewer presented the Primary Review.
- The Rasmussen lab studies molecular and cellular mechanisms of somatosensory system development, repair, and regeneration.
- The lab works with transgenic zebrafish and lab strains of E. coli at BSL-1.
- A lab inspection has been performed and is still pending a response.
- All required trainings are complete.
- This project has an IACUC protocol in review.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Rasmussen.
- The Committee voted unanimously to approve the draft BUA for Dr. Rasmussen, pending successful completion of the lab inspection.

k. Swalla, Billie, change, *Activation of Developmental Gene Networks in Invertebrate Embryos*

- Section III-D
- The assigned IBC Primary Reviewer presented the Primary Review.

- The Swalla lab is adding the creation and use of 10 transgenic marine invertebrate species at BSL-1.
- The lab has applied for permits from Washington Department of Fish and Game that are required for importation and maintenance of certain non-native species.
- A lab inspection was not required as the lab was recently inspected.
- All required trainings are complete.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Swalla.
- The Committee voted unanimously to approve the draft BUA for Dr. Swalla.

l. Wills, Andrea, renewal, *Molecular mechanisms of regeneration in Xenopus tropicalis*

- Section III-D, III-F
- The assigned IBC Primary Reviewer presented the Primary Review.
- The Wills lab examines the molecular mechanisms that enable tissues in Xenopus frogs to regenerate.
- The lab will microinject plasmids encoding reporter genes into embryos to create transgenic frogs and will also utilize gene-specific synthetic guide RNA to create deletion-based mutants. All Xenopus frogs will be handled and housed ABSL-1. The lab also work with E. coli K-12 and rDNA at BSL-1.
- The lab was inspected, and no deficiencies were noted.
- All required trainings are complete.
- This project has an IACUC protocol in review.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Wills.
- The Committee voted unanimously to approve the draft BUA for Dr. Wills.

8. SUBCOMMITTEE REPORTS:

m. Anderson, Stacy, change, *Primary Bioscience BUA application for recombinant protein expression in E. coli*

- Section III-B
- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- The Anderson lab is proposing to add cloning of the alpha-hemolysin toxin in non-pathogenic BL21 lab strains of E. coli. The engineered proteins (nanopores) will be isolated and purified and fused to a lipid bilayer to allow controlled transit of peptides across the membranes. The lab will not create or work with powdered form of the toxin.
- This Section III-B research requires review and approval by the NIH Office of Science Policy (OSP). NIH OSP granted approval for this work specific to Dr. Anderson at the UW on July 10, 2024.
- Occupational health requirements for the toxin cloning experiments are in review.
- The lab inspection is scheduled for after the IBC meeting.
- All required trainings are complete.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Stacy. Another member seconded the motion.
- The Committee voted unanimously to approve the draft BUA for Dr. Stacy, pending successful completion of the lab inspection and occupational health review.

n. Freedman, Benjamin, renewal, *Differentiation of Human Pluripotent Stem Cells into Kidney Cells*

- Section III-D, III-E, and III-F
- Four members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- The Freedman lab works with wildtype and recombinant SARS-CoV-2 with fluorescent report genes in cell culture infection models at BSL-3. They also work with AAV and Sendai viral vectors. Sendai viral vectors with oncogenes are used to generate iPSCs to create laboratory models of human kidney disease and regeneration.
- A medical management plan is in place for SARS-CoV-2.
- The BSL-1 and BSL-2 lab inspections are scheduled for after the IBC meeting. The BSL-3 facility is inspected regularly and not in association with projects.
- All required trainings are complete.
- This project has an IACUC protocol in review.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Freedman. Another member seconded the motion.
- <u>The Committee voted unanimously to approve the draft BUA for Dr. Freedman, pending successful completion of the lab inspection.</u>

o. Liao, John, renewal, *Phase I study evaluating benefit of PRGN-3005 (autologous CAR T cells) delivered by intraperitoneal infusion (IP) or intravenous infusion (IV) in advanced stage platinum resistant ovarian cancer patients*

- Section III-C and III-F
- Two members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- This is a Phase 1, industry sponsored, multi-center, trial to evaluate the safety and efficacy of PRGN-3005 for platinum-resistant ovarian, fallopian tube, and peritoneal cancer.
- Autologous T cells are harvested and electroporated with non-viral rDNA and then administered to human subjects.
- All required trainings are complete.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Liao. Another member seconded the motion.
- <u>The Committee voted unanimously to approve the draft BUA for Dr. Liao.</u>

p. Polyak, Steve, change, *Virus-Host Interactions in Cell Culture*

- NIH Guidelines not applicable
- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- The Polyak lab is seeking to add selection of resistance studies for Risk Group 2 human coronaviruses (NL63, OC43, and 229E) with the intent to identify broad spectrum antiviral drug combinations that potently suppress coronaviruses. The lab hopes to identify drug combinations that could provide superior control over emergence of antiviral drug resistance.

- Mutational patterns will be characterized by sequencing, and Dr. Polyak will work with EH&S and the National Institute of Allergy and Infectious Diseases (NIAID) on how the mutational profiles may be reported.
- The subcommittee determined to require respiratory protection with fit-tested N95 respirators during work with potentially drug-resistant viruses, including handling and transport. Additionally, only lysed or inactivated samples may be stored for future use; no potentially drug-resistant isolates are to be stored for future use.
- An occupational health review has been completed by the Employee Health Center and Campus Health Physician.
- A DURC review has been completed.
- All required trainings are complete.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Polyak. Another member seconded the motion.
- <u>The Committee voted unanimously to approve the draft BUA for Dr. Polyak, pending addition of the respiratory protection requirement to the BUA letter.</u>

q. Shadman, Mazyar, new, *A Phase 1 study evaluating SC262, a hypoimmune, allogeneic CD22-directed CAR T cell therapy, in relapsed and/or refractory non-Hodgkin's lymphoma (VIVID)*

- Section III-C
- Two members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- This is a study of a second therapy with an allogeneic CAR-T product in subjects with relapsed and/or refractory B cell malignancies who have received previous CD19-directed CAR-T cell therapy.
- Patient donor cells are collected and then transduced with third generation lentiviral vectors. The transduced cells are then administered to human subjects.
- All required trainings are complete.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Shadman. Another member seconded the motion.
- <u>The Committee voted unanimously to approve the draft BUA for Dr. Shadman.</u>

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

11. MEETING ADJOURNED AT APPROXIMATELY 11:29 a.m.