



# INSTITUTIONAL BIOSAFETY COMMITTEE

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## UNIVERSITY of WASHINGTON

### Meeting Minutes

**Date:** Wednesday, January 17, 2024

**Time:** 10:00 AM – 12:00 PM

**Location:** Zoom

- Members Present:**
1. Jim Boonyaratanakornkit, Allergy and Infectious Diseases
  2. Thea Brabb, Comparative Medicine (*Animal Containment Expert*)
  3. Jason Cantera (*Community Member*)
  4. Lesley Colby, Comparative Medicine (*Animal Containment Expert*)
  5. Lesley Decker, Environmental Health & Safety (*Biosafety Officer*)
  6. Erin Heiniger, Department of Bioengineering (*Laboratory Specialist*)
  7. Richard Grant, Washington National Primate Research Center
  8. David Koelle, Allergy and Infectious Diseases
  9. Jennifer Nemhauser, Department of Biology (Plant Expert)
  10. Susan Parazzoli (*Community Member*)
  11. Jason Smith, Microbiology (*IBC Chair*)
  12. 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 10:01 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 December 13, 2023, meeting.
  - A member made a motion to approve the December 13, 2023, minutes. Another member seconded the motion.
  - The committee voted unanimously to approve the December 13, 2023, meeting minutes, with two members not voting.
4. **OLD BUSINESS:**
  - At the December 13, 2023, meeting, Dr. Adams Waldorf's BUA was approved pending an update to the BUA letter. This BUA is still pending.
  - At the December 13, 2023, meeting, Dr. Bothwell's BUA was approved pending completion of the required trainings and lab inspection response. This BUA is still pending.
  - At the December 13, 2023, meeting, Dr. Iritani's BUA was approved pending an update to the BUA letter to include information about reproductive hazards. This BUA has been sent out.
  - At the December 13, 2023, meeting, Dr. Jerome's BUA was approved pending successful completion of the lab inspection and required training. This BUA is still pending.
  - At the December 13, 2023, meeting, Dr. Tian's BUA was approved pending successful completion of a lab inspection response and an update to the BUA letter. This BUA is still pending.
  - At the December 13, 2023, meeting, Dr. Yadav's BUA was approved pending successful completion of the lab inspection. 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 section 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. Olanrewaju was approved for in vitro work with human source material, HIV, and rDNA to the BUA *Rapid enzymatic assays to improve HIV monitoring and treatment* (Section III-F).
    - Dr. Shree added rooms for use of previously approved agents to the BUA *Shree Lab: Reproductive Sciences*.
    - Dr. Vojtech added rooms for use of previously approved agents to the BUA *Mechanisms of sexual virus transmission*.
    - Dr. McCartney was approved for in vitro work with human source to the BUA *Immune Mechanisms of Early Pregnancy Loss*.
    - Dr. Murphy added in vitro work with transgenic Plasmodium berhgei to the BUA *NHP Study* (Section III-E).

- Dr. Levitt renewed in vitro work with human source material and rDNA to the BUA *Cerebrovascular pathobiology* (Section III-F).
- Dr. Johnson Erickson added a room for use of previously approved agents to the BUA *Predicting Therapy Response*.
- Dr. Kane was approved for work with a bacterium strain in mice to the BUA *Probiotic treatments in aging mice*.
- Dr. Koelle added rooms for in vitro work with previously approved agents to the BUA *Koelle Laboratory at UW*.
- Dr. Johnson Erickson added rooms in vivo work with previously approved agents to the BUA *Predicting Therapy Response*.
- Dr. Kaufman renewed in vitro work with human source material to the BUA *Clinical and Translational Studies of Air Pollution Toxicity*.
- Dr. Grant added in vitro work with wildtype Simian varicella to the BUA *Primate Diagnostic Services Laboratories*.
- Dr. Baker registered work adding in vitro use of chicken eggs with previously approved agents to the BUA *Institute for Protein Design and Affiliate Investigators*.
- Dr. Lai registered work reviewing a revised bioreactor design and containment protocols to the BUA *Household-scale bioprocess toilet system*.
- Dr. Pan registered work with human and NHP stool samples to the BUA *Biodemography Lab*. Previously approved work with human and NHP source materials covers this work.
- Dr. Gale was approved for enhanced gene delivery of rDNA in NHPs to the BUA *NHP Antivirals for Biodefense* (Section III-D). The IBC previously approved the PI for work with this agent in NHPs at the June 2023 meeting.
- Dr. Johnstone renewed in vitro work with human and NHP source material to the BUA *Factors Regulating Aqueous Outflow in Glaucoma*.
- Dr. Chung renewed in vitro work with human source material, Risk Group 2 human coronaviruses, wildtype Staphylococcus strains, wildtype Mycobacterium bovis (BCG), and fixed or inactivated SARS-CoV-2 samples or tissue and to the BUA *Highly sensitive and specific immunoresistive sensor for point-of-care screening of COVID-19*.
- Dr. Hawn registered work adding a new human cell line modified by third generation lentiviral vectors to include a reporter gene with to the BUA *Innate Immunity and Susceptibility to Infectious Disease*.
- 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, with one abstention and one member not voting.

## 6. **BSL-3 INACTIVATION REPORT**

- Dr. Shah requested approval for paraformaldehyde fixation of tissues infected with Mycobacterium tuberculosis.
- Dr. Fuller requested approval for ultraviolet (UV) light inactivation of SARS-CoV-2 in bronchoalveolar lavage (BAL) supernatant from nonhuman primates (NHP) infected with SARS-CoV-2.
- The subcommittee reviewed the procedures and inactivation data provided by the labs and approved their requests.
- The IBC Chair a motion to approve this month's BSL-3 Inactivation Report.

- A member made a motion to approve this month's BSL-3 Inactivation Report. Another member seconded the motion.
- The committee voted to approve this month's BSL-3 Inactivation Report with one member not voting.

## 7. DURC REPORT

- One project was reviewed for potential DURC. It was a renewal DURC application for use of *Francisella tularensis*.
- The DURC IRE determined that the research does not meet the DURC definition.
- The IBC Chair sought a motion to approve this month's DURC Report.
- A member made a motion to approve this month's DURC Report. Another member seconded the motion.
- The Committee unanimously voted to approve this month's DURC Report with one member not voting.

## 8. INDIVIDUAL PROJECT REVIEWS

- a. Cookson, Brad, renewal, *Initiation and Regulation of Inflammation and Development of Protective Immunity*
  - Sections III-D, III-E, and III-F
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - The Cookson lab aims to identify the most effective and long-lasting way to generate reactive T cells that play key roles in the immunity generated by vaccination and to understand the mechanisms of inflammatory cell death.
  - This lab works with several Risk Group 2 agents including species of *Listeria*, *Legionella*, *Pseudomonas*, *Salmonella* and *Yersinia*. They also use non-pathogenic strains of *E. coli* in vitro and administer *Salmonella typhimurium* to mice.
  - The lab was inspected, and no deficiencies were noted.
  - All required trainings are complete.
  - There are occupational health requirements for work with *Listeria monocytogenes* and *Streptococcus pneumoniae*.
  - 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. Cookson.
  - The Committee voted unanimously to approve the draft BUA for Dr. Cookson with one member not voting.
  
- b. Dembrow, Nikolai, renewal, *Neurophysiologic studies of neuron populations in ex vivo non-human primate cortical tissue*
  - Section III-D
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - The Dembrow lab aims to understand how higher order cognitive tasks are processed at the level of individual neurons.
  - This lab works with AAV and NHP source material in vitro.
  - The lab was inspected, and no deficiencies were noted.
  - 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. Dembrow.
  - The Committee voted unanimously to approve the draft BUA for Dr. Dembrow with one member not voting.
- c. Greenberg, E. Peter, change, *Quorum sensing (QS) in Burkholderia mallei*
- Section III-D
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - The Greenberg lab is adding recombinant *Achromobacter xylosoxidans* and *Stenotrophomonas maltophilia* for in vitro work. Resistance to certain antibiotics will be introduced, but the work will not include antibiotics that are frontline treatments.
  - A lab inspection has been performed and is still pending a response.
  - All required trainings are complete.
  - The Employee Health Center (EHC) reviewed the antibiotic resistance that will be conferred to each organism to confirm that treatments are readily available in the event of an exposure or infection.
  - The draft BUA letter was shown.
  - The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Greenberg.
  - The Committee voted unanimously to approve the draft BUA for Dr. Greenberg pending successful completion of the lab inspection with one member not voting.
- d. Greninger, Alex, change, *Discovery and Characterization of Virus-Host Interactions and Determination of Antiviral Drug Resistance*
- Section III-D
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - The Greninger lab added the use of recombinant influenza virus A and B in vitro.
  - A lab inspection was not required as the lab was recently inspected.
  - All required trainings are complete.
  - There are occupational health requirements for work with Influenza virus.
  - The draft BUA letter was shown.
  - The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Greninger.
  - The Committee voted unanimously to approve the draft BUA for Dr. Greninger with one member not voting.
- e. Ho, Rodney, change, *Drug Delivery Strategies Targeting the HIV Sanctuary*
- Sections III-D and III-E
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - The Ho lab added the use of wildtype human immunodeficiency virus, recombinant simian-human immunodeficiency virus, human immunodeficiency virus-1, *E. coli* K-12, and enhanced gene delivery methods to in vitro work.
  - A lab inspection has been performed and is still pending a response.
  - 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. Ho.

- The Committee voted unanimously to approve the draft BUA for Dr. Ho pending successful completion of the lab inspection with one member not voting.
- f. Meeske, Alexander, renewal, *CRISPR-Cas Immunity in Prokaryotes*
- Sections III-D, III-E, and III-F
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - The Meeske lab aims to study CRISPR systems in their natural hosts, to understand the roles these systems play in bacterial physiology, and how they are controlled by their hosts or by infecting viruses.
  - This lab works with several species of *Listeria*, *Staphylococcus aureus*, *Streptococcus pyogenes*, bacteriophage, and rDNA in vitro.
  - The lab inspection is scheduled for after the IBC meeting.
  - All required trainings are complete.
  - The draft BUA letter was shown.
  - There are occupational health requirements for work with *Listeria* spp.
  - The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Meeske.
  - The Committee voted unanimously to approve the draft BUA for Dr. Meeske pending successful completion of the lab inspection.
- g. Murphy, Sean, change, *NHP study*
- Section III-D
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - The Murphy lab added recombinant *Plasmodium cynomolgi* parasites in mosquitos and for in vitro work.
  - 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. Murphy.
  - The Committee voted unanimously to approve the draft BUA for Dr. Murphy.
- h. Oda, Shannon, renewal, *Engineering novel immunotherapeutic strategies.*
- Section III-D
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - The Oda lab aims to develop adoptive immunotherapy for cancer.
  - This lab uses cells transduced with replication deficient, ecotropic gammaretroviral vectors with oncogenic inserts and third generation replication deficient, non-HIV pseudotyped lentiviral vectors with oncogenic inserts in a UW core facility.
  - A lab inspection was not required as all work takes place inside a core facility.
  - 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. Oda.
  - The Committee voted unanimously to approve the draft BUA for Dr. Oda.
- i. Paik, Jisun, renewal, *Vitamin A , gut and reproductive health*
- Sections III-D, III-E, and III-F
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - The Paik lab aims to develop new compounds that inhibit retinoic acid synthesis; to determine new target pathways for male contraceptive development; to determine

roles of retinoic acid in gut inflammation; and to determine the role of retinol binding protein 2 in retinoid and endocannabinoid metabolism.

- This lab works with *Helicobacter bilis* in mice and in vitro. They also work with non-pathogenic strains of *E. coli*, rDNA with enhanced gene delivery methods, and lentiviral vectors in vitro.
- The lab was inspected, and all deficiencies have been corrected.
- 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. Paik.
- The Committee voted unanimously to approve the draft BUA for Dr. Paik with one recusal.

j. Qu, Feini, change, *Mechanisms of Complex Musculoskeletal Tissue Regeneration*

- Section III-D
- The assigned IBC Primary Reviewer presented the Primary Review.
- The Qu lab added work with murine cells transduced with third generation lentiviral vectors with oncogenes in mice.
- 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. Qu.
- The Committee voted unanimously to approve the draft BUA for Dr. Qu.

k. Swalla, Billie, new, *Activation of Developmental Gene Networks in and ascidian, *Boltenia villosa**

- Sections III-D, III-E, and III-F
- The assigned IBC Primary Reviewer presented the Primary Review.
- The Swalla lab aims to understand the developmental gene networks that are deployed during embryonic development to make an ascidian larval body plan in sea squirts.
- This lab works with transgenic *Boltenia villosa*, non-pathogenic strains of *E. coli*, and rDNA in vitro.
- The lab inspection is scheduled for after the IBC meeting.
- The required trainings are still pending.
- 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 pending completion of the required trainings and successful completion of the lab inspection.

l. Thomas, Wendy, renewal, *Biological Adhesion in Flow and under Force*

- Sections III-D, III-E, and III-F
- The assigned IBC Primary Reviewer presented the Primary Review.
- The Thomas lab aims to study the molecules that help blood cells and pathogens bind to tissue.

- This lab works with replicant deficient vesicular stomatitis viral vector, replication deficient third generation lentiviral vectors, Streptococcus species, and rDNA with enhanced gene delivery methods in vitro.
  - 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. Thomas.
  - The Committee voted unanimously to approve the draft BUA for Dr. Thomas pending successful completion of the lab inspection.
- m. Yang, Kai-Chun (Daniel), change, *Modeling genetic cardiomyopathies with hiPSCs*
- Section III-D
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - The Yang lab added the use of AAV for in vitro work.
  - 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. Yang.
  - The Committee voted unanimously to approve the draft BUA for Dr. Yang.

## 9. SUBCOMMITTEE REPORTS:

- n. Bender Ignacio, Rachel, new, *A Safety, Immunogenicity and Efficacy Phase 1/2a Study of a Heterologous Ad26.Mos4.HIV, MVA-BN-HIV Vaccine Regimen Plus Broadly Neutralizing Antibodies PGT121, PGDM1400, and VRC07-523LS in HIV-1-Infected Adults on Suppressive ART*
- Section III-C and III-D
  - Two members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
  - This is a new multi-center, placebo-controlled, double blind, randomized phase 1/2a trial of a heterologous Ad26- (prime) and MVA-based (boost) HIV vaccine to look at safety, immunogenicity, and efficacy to see if this vaccine regimen can help patients achieve a functional cure with a combination of therapeutic vaccines and bnAbs in the absence of ART.
  - A mosaic vaccine with adenoviral and vaccinia viral vectors will be administered to humans.
  - All required trainings are complete.
  - The draft BUA letter was shown.
  - A member made a motion to approve the draft BUA letter for Dr. Bender Ignacio. Another member seconded the motion.
  - The Committee voted unanimously to approve the draft BUA for Dr. Bender Ignacio.
- o. Gale, Michael, change, Biosafety level (BSL) for Japanese Encephalitis Virus (JEV) Nakayama strain
- Section III-D
  - Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.



- In a risk assessment of biological agents used in animals, EH&S concluded that the JEV Nakayama strain is Risk Group 3 and requires BSL-3/ABSL-3 biocontainment. Only the JEV SA 14-14-2 strain is specifically classified as Risk Group 2 by the NIH Guidelines. Unlike SA 14-14-2, which is used as a live-attenuated vaccine, the Nakayama strain has only been used in inactivated vaccines.
  - A medical management plan is in place for Risk Group 3 Japanese encephalitis viruses.
  - The Gale lab's BUA letters will be updated with the updated biosafety levels.
  - A member made a motion to approve the draft BUA letter for Dr. Gale. Another member seconded the motion.
  - The Committee voted unanimously to approve the BSL-3 biosafety level for in vitro and in vivo work with the JEV Nakayama strain for Dr. Gale.
- p. Skerrett, Shawn, renewal, *Human Alveolar Macrophage Interactions with Francisella tularensis*
- Sections III-D and III-F
  - Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
  - The Skerrett lab aims to explore the interactions of Francisella tularensis with human alveolar macrophages in comparison with mouse alveolar and bone marrow derived macrophages.
  - This lab works with Risk Group 3 wildtype and recombinant Francisella tularensis, Risk Group 2 Francisella novicida, rDNA, and human source material in vitro at BSL-3.
  - The BSL-3 facility is inspected on a routine basis and not in association with BUAs/projects.
  - All required trainings are complete.
  - A medical management plan is in place for F. tularensis.
  - The draft BUA letter was shown.
  - A member made a motion to approve the draft BUA letter for Dr. Skerrett. Another member seconded the motion.
  - The Committee voted unanimously to approve the draft BUA for Dr. Skerrett.

## 10. FOR YOUR INFORMATION:

- **NIH Incident Report:**
  - A veterinary technician experienced a sharps injury to the foot from a needle used for a bone marrow aspiration on a non-human primate that had been previously exposed to recombinant simian-human immunodeficiency virus (SHIV). The veterinary technician washed the injury for 15 minutes with a herpes B scrub kit containing a chlorhexidine solution and then reported to the emergency department for treatment. They have consulted with the UW Employee Health Center (EHC) for follow up care and monitoring.

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

**12. MEETING ADJOURNED AT APPROXIMATELY 11:26 A.M.**