INSTITUTIONAL BIOSAFETY COMMITTEE

UNIVERSITY of WASHINGTON

Meeting Minutes

Date: Wednesday, July 15, 2020
Time: 10:00 AM – 12:00 PM

Location: Remote via Zoom

Members Present:
1. Richard Grant, Washington National Primate Research Center
2. Garry Hamilton (*Community Member*)
3. Kevin Hybiske, Allergy and Infectious Diseases
4. David Koelle, Allergy and Infectious Diseases
5. Stephen Libby, Laboratory Medicine (*IBC Chair*)
6. Scott Meschke, Environmental & Occupational Health Sciences
7. Susan Parazzoli (Community Member)
8. Jason Smith, Microbiology (*IBC Vice Chair*)

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 10:04 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:**
   - June 17, 2020
     - The IBC Chair sought a motion to approve the minutes from the June 17, 2020 meeting.
     - A member made a motion to approve the June 17, 2020 minutes. Another member seconded the motion.
     - The committee voted unanimously to approve the June 17, 2020 meeting minutes.
   - July 1, 2020
     - The IBC Chair sought a motion to approve the minutes from the July 1, 2020 meeting.
     - A member made a motion to approve the July 1, 2020 minutes. Another member seconded the motion.
     - The committee voted to approve the July 1, 2020 meeting minutes. There were two voting abstentions.

4. **OLD BUSINESS:**
   - At the March 18, 2020 meeting, Dr. Jerome's BUA was approved pending completion of the BUA application. This BUA is still pending.
   - At the March 18, 2020 meeting, Dr. Lagunoff's BUA was approved pending a successful lab inspection and training completion. This BUA is still pending.
   - At the May 20, 2020 meeting, Dr. Pepper's BUA was approved pending a successful in-person lab inspection for BSL-2 work to begin. This BUA is still pending.
   - At the June 17, 2020 meeting, Dr. Hoppins' BUA was approved pending a successful lab inspection. This BUA has been sent out.
   - At the June 17, 2020 meeting, Dr. Lieber's BUA was approved pending review of SOPs, a change to BUAL, and a successful lab inspection. This BUA has been sent out.
   - At the June 17, 2020 meeting, Dr. Parsek's BUA was approved pending changes to the BUA application. This BUA is still pending.
   - At the June 17, 2020 meeting, Dr. Altemeier's BUA was approved pending review of the IACUC protocol and required training. This BUA is still pending.
   - At the June 17, 2020 meeting, Dr. Hyde's BUA was approved pending additional review by ad hoc reviewers with more expertise. This BUA has been sent out.
   - At the June 17, 2020 meeting, Dr. Kreuzer's BUA was approved pending the medical management plan. This BUA is still pending.

5. **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

- Dr. Gray renewed the BUA *Pascal Biosciences.* Work includes in vitro use of human blood, tissue, body fluids, and cell lines.
- Dr. Smith added a new room to the BUA *Antiviral Mechanisms of Defensins.*
- Dr. Lutz added research involving clinical samples from patients known or suspected to be infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) to the BUA *Covid-19 test development*. No viral isolation or culturing is permitted.
- Dr. Lood added research involving clinical samples from patients known or suspected to be infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) to the BUA *Neutrophil contribution to inflammation and autoimmunity in rheumatic diseases*. No viral isolation or culturing is permitted.
- Dr. den Hartigh took over as PI for the BUA *Inflammation, Obesity and Atherosclerosis.* Work involves use of lentiviral vectors, HIV pseudotyped, replication deficient and recombinant or synthetic DNA/RNA (non-viral) in mice.
- Dr. Fontana renewed the BUA *Interferon-Independent Mechanisms of Malaria Restriction by T Helper Cells*. Work includes Plasmodium chabaudii in mice.
- Dr. Allbritton added in vitro use of Eubacterium hallii to the BUA *Tissue culture in Albritton Lab.*
- Dr. Duthie added human cells in mice to the BUA *Novel immunization strategies to protect against infectious diseases.*
- Dr. Tian added research involving clinical samples from patients known or suspected to be infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) to the BUA *Energetics and Metabolism of the Heart*. No viral isolation or culturing is permitted.
- Dr. Fuller added research involving non-human primate samples from primates experimentally exposed to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) to the BUA *Enhanced Hepatitis B Vaccine for Immunocompromised Animals*. No viral isolation or culturing is permitted.
- Dr. Yazdan-Shahmorad added a room to the BUA *Novel neural technologies for neurorehabilitation.*
- Dr. Geisse added a room to the BUA *Development of cultureware and devices for human cells in vitro research.*
- Dr. Fujise added a room to the BUA *Study of Fortilin.*
- Dr. Hyde added use of clinical specimens from known or suspected COVID-19 patients to the BUA *Contribution of virus-host interactions to viral pathogenesis (BLS3, non-select).*
- Dr. Fink added to the BUA *Host-Pathogen Interactions During Viral Infection* use of three non-recombinant human coronaviruses: 229E, NL63 and OC43.
- Dr. Brentnall renewed the BUA *Early Detection of Pancreatic Cancer.* Work includes recombinant or synthetic DNA/RNA (non-viral) – enhanced gene delivery methods.
- The IBC Chair sought a motion to approve this month's Biosafety Officer Report pending that EH&S will be in contact with any labs that may be affected by an upcoming Subcommittee ruling on fixed and inactivated SARS-CoV-2 samples (on the agenda for July 29, 2020).
- A member made a motion to approve this month's Biosafety Officer Report. Another member seconded the motion.
- <u>The Committee unanimously voted to approve this month's Biosafety Officer Report.</u>

6. **DURC REPORT:** The Dual Use Research of Concern Institutional Review Entity (DURC IRE) did not meet this month because there were no applications to review.

7. **INDIVIDUAL PROJECT REVIEWS**

   a. Blevins, James, renewal, *Role of Brown Adipose Tissue Thermogenesis in Oxytocin-Elicited Weight Loss*
   - The assigned IBC Primary Reviewer presented the Primary Review.
   - This project aims at understanding how oxytocin affects hindbrain functions such as the regulation of food intake and thermoregulation.
   - Work includes use of adeno-associated viral vectors (adenovirus free) in mice.
   - A lab inspection is not required since only animal work is taking place in a vivarium that is regularly inspected.
   - All of the required trainings have been completed.
   - The draft BUA letter was shown.
   - The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Blevins.
   - The Committee voted unanimously to approve the draft BUA for Dr. Blevins.

   b. Brown, Mary Beth, new, *Maximizing Benefit and Minimizing Cardiotoxicity of Exercise for Duchenne Muscular Dystrophy (DMD)*
   - The IBC Chair presented the Primary Review.
   - The goal of theproject is to utilize a new rat model of Duchenne Muscular Dystrophy (DMD) for disease modeling and gene therapy studies. Their goal is to measure the acute and chronic effects of exercise in the DMD rat to optimize the regimen for young DMD patients based on what is learned.
   - Work includes use of adeno-associated viral vectors (adenovirus free) in rats.
   - The lab was inspected and no deficiencies were identified.
   - All of the required trainings have been completed.
   - The draft BUA letter was shown.
   - The IBC Chair made a motion to approve the draft BUA for Dr. Brown.
   - The Committee voted unanimously to approve the draft BUA for Dr. Brown.

   c. Frevert, Charles, renewal, *Proteoglycans and Influenza Infection: Gene-targeted mouse models to study versican*
   - The assigned IBC Primary Reviewer presented the Primary Review.
   - The overall research goal is to determine how a family of proteins called proteoglycans regulate the ability of the immune system to detect, eliminate, and recover from viral lung infections.
   - Work includes use of Influenza virus, mouse adapted strains, and lentiviral vectors, third generation, non-HIV pseudotyped, replication deficient in mice and in vitro.
   - A successful lab inspection is still required.
   - All of the required trainings have been completed.
   - The draft BUA letter was shown.
   - The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Frevert pending a successful lab inspection and changes to the BUA application.
   - The Committee voted unanimously to approve the draft BUA for Dr. Frevert pending the items above.

d. Gale, Michael, renewal, *NHP Host Immunity to Zika Virus infection*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This lab is working on vaccines and therapeutics for Zika Virus, Yellow Fever Virus, and other flaviviruses. Compounds and vaccines under development will be tested in non-human primate models prior to use in humans.
- The lab was inspected and no deficiencies were identified.
- The IACUC amendment has not yet been submitted and will require review.
- All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Gale pending review of the IACUC submission once submitted.
- The Committee voted to approve the draft BUA for Dr. Gale pending review of the IACUC submission once submitted. There was one abstention.

e. Lam, Hung-Ming, new, *Identification of the biology and novel treatment targets for advanced urological cancers*

- The assigned IBC Secondary Reviewer presented the Primary Review.
- The overall research goals are to characterize the biology underlying advanced urological cancers, and to identify and test novel treatment targets.
- Work includes in vitro use of lentiviral vectors, non-HIV pseudotyped, replication deficient.
- A successful lab inspection is still required.
- All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC Secondary Reviewer made a motion to approve the draft BUA for Dr. Lam pending a successful lab inspection.
- The Committee voted unanimously to approve the draft BUA for Dr. Lam pending a successful lab inspection.

f. Lopez, Randolph, new, *A-Alpha Bio*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This lab is developing a yeast-based platform for measuring millions of protein interactions at a library-on-library scale. They use yeast to express and display a wide variety of protein's on the surface of yeast including SARS-CoV2 proteins, enteric bacterial proteins, human proteins and antibodies.
- Work includes in vitro use of SARS-CoV-2 DNA.
- The committee discussed the required biosafety level for the use of these spike proteins, and agreed that BSL-1 is appropriate. This will be changed on the BUA letter.
- A successful lab inspection is still required.
- All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Lopez pending a successful lab inspection and a change to the BUA letter.
- The Committee voted unanimously to approve the draft BUA for Dr. Lopez pending the items listed above.

g. Mack, David, new, *FXR1 gene therapy in DMD rat models*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The goal of this research is to use gene therapy to reverse the effects of Duchenne Muscular Dystrophy (DMD) mutation in a genetically defined strain of rats. Fragile X mental retardation syndrome-related protein 1 is a protein that in humans is encoded by the FXR1 gene.
- Work includes use of adeno-associated viral vectors (adenovirus free) in rats. AAV constructs are obtained from a collaborator at the University of Arizona.
- The lab was inspected and no deficiencies were identified.
- All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Mack.
- The Committee voted unanimously to approve the draft BUA for Dr. Mack.

h. Maly, Dustin, renewal, *Study of Intracellular Protein Kinases*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This lab studies the structures and functions of protein kinases.
- Work includes in vitro use of lentiviral vectors, third generation, non-HIV pseudotyped, replication deficient, oncogenic inserts and human cells transduced with lentiviral vectors.
- The lab inspection checklist was completed by the PI and no deficiencies were identified. An in-person lab inspection is postponed due to COVID-19.
- All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Maly.
- The Committee voted unanimously to approve the draft BUA for Dr. Maly.

i. Miyaoka, Robert, new, *Small Animal PET/CT Imaging Core*

- The assigned IBC Primary Reviewer presented the Primary Review.
- For this study, the lab is imaging lung cancer mice infected at FHCRC with adenoviral vector, gutless (tested negative for RCV).
- The lab was inspected and no deficiencies were identified.
- All of the required trainings have been completed.
- The IACUC amendment has not yet been submitted and will require review.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Miyaoka pending review of the IACUC amendment.
- The Committee voted unanimously to approve the draft BUA for Dr. Miyaoka pending review of the IACUC amendment.

j. Paik, Jisun, renewal, *Microbiome and Immunity*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The overall research goals are to determine the role of microbiome in linear growth of CFTR knockout mice and determine role of Type VI secretion in competition between bacterial constituents of the human gut microbiome.
- Work includes use of *Bacteroides* species and other bacteria in mice and in vitro.
- The lab was inspected and no deficiencies were identified.
- All of the required trainings have been completed.
- 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.

k. Phillips, Paul, change, *Phasic Dopamine Release during Motivated Behavior in Rats*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This lab investigates the role of dopamine transmission in normal and pathological mental function (including drug abuse) utilizing multi-disciplinary approaches. They will utilize interference methods including neuropharmacology (systemic administration or site-specific intracranial microinjections), viral-mediated gene delivery and intracranial electrical stimulation.
- This change application adds use of canine adenoviral vectors in mice and rats.
- The lab was inspected and no deficiencies were identified.
- All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Phillips.
- The Committee voted unanimously to approve the draft BUA for Dr. Phillips.

l. Shi, Min, renewal, *The Shi Laboratory Animal Use and Other Research*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The overall goal continues to be the elucidation of the cellular and molecular mechanisms underlying neurodegeneration, particularly in human diseases such as Parkinson's and Alzheimer's. The goal is also to identify and validate diagnostic or prognostic biomarkers in human body fluids to facilitate the diagnosis, differential diagnosis, prediction or tracking of disease progression, and evaluation of treatment efficacy for these neurodegenerative disorders.
- Work includes in vitro use of adeno-associated viral vectors (adenovirus free) and lentiviral vectors, non-HIV pseudotyped, replication deficient.
- A successful lab inspection is still required.
- All of the required trainings have been completed.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Shi pending a successful lab inspection.
- The Committee voted unanimously to approve the draft BUA for Dr. Shi pending a successful lab inspection.

8. SUBCOMMITTEE REPORTS:

m. Fink, Susan, change, *Host-Pathogen Interactions During Viral Infection*

- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- This change adds the use of SARS-CoV-2 in mice at BSL-3, as well as the use of human and non-human primate cells.
- All of the required trainings have been completed.
- This approval is pending review of the IACUC submission.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Fink pending the IACUC submission. Another member seconded the motion.

- The Committee voted unanimously to approve the draft BUA for Dr. Fink pending the IACUC submission.

n. Hyde, Jennifer, change, *Contribution of virus-host interactions to viral pathogenesis (BLS3, non-select)*
- All proposed recombinant modifications to SARS-CoV-2 are approved except for any modifications that would introduce non-synonymous mutations or modifications of the RNA helicase region of SARS-CoV-2.
- The proposed modifications to the RNA helicase region were sent to NIH for review. The NIH decided that would be considered a major action, so the PI has decided not to move forward with that work.

o. Hyde, Jennifer, renewal, *Contribution of virus-host interactions to viral pathogenesis (BLS3, non-select)*
- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- This project aims to identify the molecular mechanism of action of IFN stimulated genes (ISGs) that impact viral pathogenesis, and additionally identify mechanisms by which viruses have evolved to inhibit the IFN response. One key aspect this project will focus on is the role of viral RNA in the modulation of these responses.
- Work includes in vitro use of SARS-CoV-2 and other viruses at BSL-3 containment.
- All of the required trainings have been completed.
- Only in vitro work is being approved at this time. All animal work will be reviewed at an upcoming IBC meeting upon review of her IACUC protocol.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Hyde. Another member seconded the motion.
- The Committee voted unanimously to approve the draft BUA for Dr. Hyde.

p. Voigt, Emily, new, *Immunogenicity and efficacy testing of an RNA vaccine against yellow fever virus*
- Two members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- This study will investigate the immunogenicity of a novel RNA-based vaccine against Yellow fever virus and Zika virus.
- Work includes use of Yellow fever virus in vitro and in mice at BSL-3.
- The IBC had several questions about the BUA application that require clarification and additional information from the PI. A medical management plan is also required for work with Yellow fever virus.
- This review is tabled and will be reviewed again a future IBC meeting once a more robust risk assessment can be completed by the Subcommittee.

q. West, Timothy, change, *Host genetics and response to infection*
- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- This change adds in vitro use of SARS-CoV-2 at BSL-3.
- Lab personnel need medical counseling before starting work with new biological agents.
- All of the required trainings have been completed.

- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. West. Another member seconded the motion.
- The Committee voted unanimously to approve the draft BUA for Dr. West.

r. Maloney, David, new, *A PHASE 2, OPEN-LABEL, SINGLE ARM, MULTICOHORT, MULTICENTER TRIAL TO EVALUATE THE EFFICACY AND SAFETY OF JCAR017 IN ADULT SUBJECTS WITH RELAPSED OR REFRACTORY INDOLENT B-CELL NON-HODGKIN LYMPHOMA (NHL) (TRANSCEND FL)*

- Two members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- There is an unmet medical need to treat patients with relapsed Non-Hodgkin Lymphoma (NHL). In the proposed trials, autologous T cells will be genetically modified to express the JCAR017 CAR-T receptor with the goal of killing CD19 (+) NHL cells. Overall, in this protocol, subjects will get lymphodepleting cytotoxic chemotherapy followed by IV infusion of CAR-T cells.
- The greatest biohazardous risk to personnel is accidental percutaneous exposure of pharmacy or nursing staff during preparation or administration of cells to patients.
- 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.

s. Sherman, Richard, SOP Inactivation Review

- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- The PI submitted documents and data demonstrating the effectiveness of their inactivation protocols. The PI presented three separate methods: bead beat and heat, protein lysate analysis, and TRIZol extraction. Each of the methods were tested for the ability to grow Mycobacterium tuberculosis following the procedures. According to the photos shown in the three documents, no bacteria were seen.
- A member made a motion to approve the inactivation protocols for Dr. Sherman. Another member seconded the motion.
- The Committee voted unanimously to approve the inactivation protocols for Dr. Sherman.

t. Murry, Charles, SOP Inactivation Review

- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- The purpose of this submission is to describe how SARS-CoV-2 is deactivated for the purpose of removing samples from BSL-3. Three chemical inactivating agents were tested: Trizol, 4% paraformaldehyde for 30 minutes, and Karnovski's EM fixative.
- The Subcommittee stated that insufficient data was provided to IBC and requests that the PI summarize the results into a brief report and resubmit for IBC review and approval. A uniform review process is needed and is currently being developed by EH&S.
- Despite this lab using protocols already approved for another PI, the IBC recognizes that lab to lab variability can be encountered.

- The additional submission will be sent to the Subcommittee for review and approval at the July 29 meeting..

u. Gale, Michael, SOP Inactivation Review

- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- The purpose of this submission is to describe how SARS-CoV-2 is deactivated for the purpose of removing samples from BSL-3. The virus was deactivated utilizing fixing agents: formalin and Karnovsky's solution.
- The IBC agrees that one reference as standard of industry is needed.
- The Subcommittee is requesting additional information and further review for a vote at the July 29 meeting.

v. BSL-3 SOP Inactivation Review

- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- The Subcommittee will discuss this process further, including to what level of detection for inactivation is being requested. This additional review by the Subcommittee will be discussed at the July 29 meeting.
- A member made a motion to approve the portion of the BSL-3 Inactivation SOP that allows the Subcommittee to approve protocols on behalf of the IBC. These approvals will be reported out at the following convened IBC meeting. Another member seconded the motion.
- The Committee voted unanimously to approve the BSL-3 Inactivation SOP allowing the Subcommittee to approve protocols on behalf of the IBC.

10. FOR YOUR INFORMATION:

- **Public Records Request:** A public records request has been received by EH&S regarding NIH reportable incidents. Committee members were reminded to forward any requests they may receive to EH&S.

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

12. MEETING ADJOURNED AT APPROXIMATELY 12:45 P.M.