



INSTITUTIONAL BIOSAFETY COMMITTEE

UNIVERSITY *of* WASHINGTON

Meeting Minutes

Date: Wednesday, August 15, 2018

Time: 10:00 AM – 12:00 PM

Location: Foegen N-403

- Members Present:**
1. Thea Brabb, Comparative Medicine (*Animal Containment Expert*)
 2. Richard Grant, Washington National Primate Research Center
 3. David Koelle, Allergy and Infectious Diseases
 4. Stephen Libby, Laboratory Medicine (*IBC Chair*)
 5. Scott Meschke, Environmental & Occupational Health Sciences
 6. Jason Smith, Microbiology (*IBC Vice Chair*)
 7. Eric Stefansson, Environmental Health & Safety (*Biosafety Officer, Animal Containment Expert*)

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 10:06 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 July 18, 2018 meeting.
 - A member made a motion to approve the July 18, 2018 minutes. Another member seconded the motion.
 - The committee voted unanimously to approve the July 18, 2018 meeting minutes.
4. **OLD BUSINESS:**
 - At the July meeting, Dr. Dichek's BUA was approved pending changing the third generation lentiviral in vitro work to BSL 1 instead of BSL 2. This change has been made.
 - At the July meeting, Dr. Parrish's BUA was approved pending the addition of nonexempt recombinant E.coli listed under NIH section III-E. This addition has been made.
 - At the July meeting, Dr. Patel's BUA was approved pending adequate addressing of lab inspection deficiencies and a final lab inspection. This has not been addressed to date. Third generation lentiviral vectors without oncogenes have been listed at BSL 1 on the BUA letter.
 - At the July meeting, Dr. Perkel's BUA was approved pending the removal of other bird species from the description in the BUA application.
 - At the July meeting, Dr. Raskind's BUA was approved pending the change of third generation lentiviral vectors to BSL 1. This change has been made.
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. Doherty added laboratory spaces and equipment for BSL2 work to their BUA.
 - Dr. Skerrett added the use of non-recombinant *Klebsiella pneumonia* and *Acinetobacter baumannii* to their BUA.
 - Dr. Patton renewed a BUA for the project *S. aureus nasal carriage*.
 - Dr. Marcovina renewed a BUA for the Northwest Lipid Metabolism and Diabetes Research Laboratories where human and animal samples are analyzed and genomic DNA extraction is performed.
 - Dr. Fuller received a new BUA for *Evaluation of SIV Co-Infection on ZIKV Pathogenesis in Pigtail Macaques*.
 - Dr. O'Donnell renewed a BUA for *Non-invasive trapping and imaging of circulating tumor cells in the peripheral vasculature using mmPA imaging*.
 - The IBC Chair sought 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. **DUAL USE RESEARCH OF CONCERN (DURC) REPORT:** The DURC IRE (Dual Use Research of Concern Institutional Review Entity) did not meet this month because there were no applications to review.

7. **S. EPIDERMIDIS SUBCOMMITTEE:**

- This subcommittee was formed to make a biosafety containment recommendation for *Staphylococcus epidermidis*. The subcommittee recommended that *S. epidermidis* be manipulated at a BSL1 containment, and that its use in an animal infection model should be considered and documented case-by-case for possible BSL2 containment, with particular attention to exposure of other animals to large numbers of organisms and environmental contamination and resulting required decontamination.
- The IBC Chair made a motion to approve the subcommittee's recommendation as written.
- The Committee voted unanimously to approve the subcommittee's recommendation.

8. **INDIVIDUAL PROJECT REVIEWS**

a. Baker, David, renewal, *Institute for Protein Design and affiliate investigators: (Baker Lab, King Lab, iGEM Lab)*

- The assigned Secondary IBC Reviewer presented the Primary Review.
- The Institute for Protein Design (IPD) uses Rosetta computational design of new proteins for which synthetic genes are placed into recombinant expression vector systems.
- The greatest risk is to staff working with proteins that may have unknown properties. Standard safety precautions in working with recombinant bacteria and mammalian cell lines should mitigate the possible exposure to such proteins.
- Follow up is needed regarding the lab inspection.
- Required trainings are expiring in September and need to be renewed.
- The draft BUA letter was shown.
- The IBC Secondary Reviewer made a motion to approve the draft BUA for Dr. Baker.
- The Committee voted unanimously to approve the draft BUA for Dr. Baker pending a lab inspection and updated training.

b. Beliveau, Brian, new, *Probing the dynamics of chromosome organization in single cells*

- The biosafety officer assigned to this project presented the Primary Review.
- The goal of this project is to use advanced microscopy and molecular techniques to investigate how the genome is organized within the nucleus and to understand how the 3D conformation of chromosomes affects nuclear processes such as transcription, replication, and repair.
- The greatest biohazardous risk to laboratory personnel is generation of transgenic human, mouse, and insect cell lines and use of lentiviral vectors in human and mouse cells.
- The reviewer clarified that this project does not work with animals. *Saccharomyces cerevisiae* is exempt and will change to Section III-F upon verification. The PI will be arriving to the University after September 1, 2018.
- The lab has not yet been set up. The investigator will be arriving within the next few months. The biosafety officer will inspect the lab once the investigator arrives at UW and the lab is ready.

- All of the required trainings have been completed.
 - The draft BUA letter was shown.
 - The biosafety officer made a motion, per the IBC Primary Reviewer's recommendation, to approve the draft BUA for Dr. Beliveau pending minor changes to the BUA application and submission of a BBP Exposure Control Plan.
 - The Committee voted unanimously to approve the draft BUA for Dr. Beliveau pending the items above.
- c. Brenowitz, Eliot, renewal, *Comparative Studies of Vocal Control*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This project studies brain neurogenesis in white crown sparrows by interrogating signaling pathways by way of targeted transduction of select neurons using third generation lentiviral vectors, foamy virus vectors, or AAV. This project does not involve oncogenes, and the vectors are being produced elsewhere.
 - 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. Brenowitz.
 - The Committee voted unanimously to approve the draft BUA for Dr. Brenowitz.
- d. Cheung, Kevin, new, *Mechanisms Regulating Collective Cell Invasion and Multiclonal Metastasis*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - The goal of this study is to model steps in tumor invasion and metastasis using an experimental platform leveraging normal and tumor organoids. The organoids are injected into immunocompromised mice elsewhere and transported to UW for imaging, where they will stay for roughly six weeks.
 - Clarification is needed in order to complete a full risk assessment. The biosafety officer discussed concerns regarding the cell lines, and it is unclear if recombinant DNA is in mouse tumor cells. Retrovirus concerns and use of oncogenes could change the biosafety containment level.
 - The IBC Chair made a motion to table the project and review at the September IBC meeting.
 - The Committee voted unanimously to table the BUA for Dr. Cheung.
- e. Cirulli, Vincenzo, renewal, *Role of Cell Adhesion Molecules in Islet Biology*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This work studies pancreatic islet cells and makes insulin-producing stem cells in an effort that could lead to cell therapy for diabetes.
 - The greatest biohazards are manipulations of human cells and stem cell lines and transfers of transduced cells into mice.
 - The lab was inspected and all deficiencies were corrected.
 - 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. Cirulli.
 - The Committee voted unanimously to approve the draft BUA for Dr. Cirulli.

- f. de la Iglesia, Horacio, renewal, *Neural Control of Circadian Rhythms*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This renewal work involves mice and rat models to better understand how biological clocks control rhythmic process functions and how environmental challenges, such as jetlag or other temporal disruptions, can affect normal biological timing. Adeno-associated virus (adenovirus free) intracranial injections are prepared elsewhere for sleep regulation.
 - The biosafety officer stated that no E. coli work is taking place, and needs to be removed from the BUA. Addition of ARCF use will be a BUA change for October 2018.
 - 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. de la Iglesia pending changes to the BUA.
 - The Committee voted unanimously to approve the draft BUA for Dr. de la Iglesia pending changes to the BUA.
- g. Iritani, Brian, change, *Gene function in lymphoiesis and cancer*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This change adds the use of mouse adapted influenza A virus A/PR/8/34 to assess immunity function.
 - This is use of non-recombinant influenza in transgenic mice.
 - The lab was recently inspected, so a new lab inspection was not required for this change.
 - 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. Iritani.
 - The Committee voted unanimously to approve the draft BUA for Dr. Iritani.
- h. Kelly, Edward, renewal, *In Vivo Function of CYP4BI; Generation of Induced Pluripotent Stem Cells*
- The assigned IBC Secondary Reviewer presented the Primary Review.
 - The goal of this project is to create iPS cells from anonymous donors with polymorphisms in drug metabolizing enzymes, and to differentiate them into liver cells for measurement of drug metabolism.
 - 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 Secondary Reviewer made a motion to approve the draft BUA for Dr. Kelly.
 - The Committee voted unanimously to approve the draft BUA for Dr. Kelly.
- i. Lee, Kelly, renewal, *Influenza Virus Structural Biology; Envelope recombinant protein expression*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This lab uses biophysical and structural biological approaches to study the structure and function of enveloped viruses (influenza virus, HIV), specifically their surface proteins that enable them to enter into host cells. The lab will also image and analyze the ultrastructural organization of parasites such Plasmodium falciparum in

- the sporozoite life cycle stage and *S. Aureus* bacteria. The long-term goal is to aid in development of vaccines and inhibitors of viruses, bacteria, and parasites.
- The committee discussed the growth of influenza strains in chicken eggs in lab incubators. PI concerns regarding the use of anti-influenza drugs were addressed, as there is reduced biosafety concern in the absence of selective pressure.
 - The lab was inspected and no deficiencies were identified.
 - All of the required trainings have been completed.
 - The draft BUA letter was shown. An influenza occupational health comment is to be added on the letter by the biosafety officer.
 - The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Lee.
 - The Committee voted unanimously to approve the draft BUA for Dr. Lee.
- j. Navas, Patrick, new, *Insulators and enhancers for globin gene therapy vectors*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This projects seeks to identify regulatory elements from the human genome that can improve the expression and safety of recombinant lentiviral vectors designed to express human beta globin to be used for gene therapy of beta chain hemoglobinopathies.
 - 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. Navas.
 - The Committee voted unanimously to approve the draft BUA for Dr. Navas.
- k. 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.
 - This project explores parameters that are dependent on donor cell properties and/or on environmental factors that ultimately determine the successful outcome of transplantation. A second focus is the regulation of Erythropoiesis.
 - The lentiviral vectors are third generation or later, and should be listed at BSL 1.
 - 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. Papayannopoulou.
 - The Committee voted unanimously to approve the draft BUA for Dr. Papayannopoulou, pending the change of biosafety level for the lentiviral vector.
- l. Wills, Andrea, renewal, *Molecular mechanisms of regeneration in Xenopus tropicalis*
- The IBC Chair presented the Primary Review.
 - This research uses *Xenopus tropicalis* and *Xenopus laevis* and microinjects plasmid DNA encoding GFP or RFP to identify the molecular processes that enable or constrain the ability of tissues to regenerate.
 - A comment in the BUA application research description was discussed regarding the frogs' ability to establish a colony outside of the University. The biosafety officer

verified that tropical animals cannot survive here, and stated that all ABSL-1 animals are transferred to landfill.

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

9. SUBCOMMITTEE REPORTS:

m. Wong, Kit, new, *A PHASE I OPEN LABEL, CLINICAL TRIAL EVALUATING THE SAFETY AND ANTI-TUMOR ACTIVITY OF AUTOLOGOUS T CELLS EXPRESSING ENHANCED TCRS SPECIFIC FOR ALPHA-FETOPROTEIN (AFPC332T) IN HLA-A2 POSITIVE SUBJECTS WITH ADVANCED HEPATOCELLULAR CARCINOMA (HCC)*

- Two members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- This clinical trial will remove T cells from patients with Hepatocellular Carcinoma (HCC) who have HLA A2 allelic variant and insert a T cell receptor specific for AFP, which will then be reinfused in hop that they will home to HCC sites, recognize malignant cells, and exert an antitumor effect.
- There are concerns to patient health from insertional mutagenesis of lentiviral genomes at deleterious points in the host genome. These issues do not pose concern to employees or the public.
- NIH RAC review has been done for this project. The Committee reviewed the procedure for when a RAC review has not done but is recommended by the IBC subcommittee, which is currently to approve the BUA and then bring to the full IBC Committee to recommend that a RAC review be formally requested.
- The lab was inspected and no deficiencies were identified.
- 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. Wong. Another member seconded the motion.
- The Committee voted unanimously to approve the draft BUA for Dr. Wong.

10. FOR YOUR INFORMATION:

- **EBV Titer Update** – At last month’s meeting, there was discussion about offering EBV titers for personnel working with EBV. The Employee Health Center medical director and medical providers reviewed this question and determined that EBV titer will not be offered prior to initiation of work with EBV. This is due to the lack of an occupational health medical benefit for offering EBV titers, as most people in the community have been exposed outside of the work environment. Personnel can call the Employee Health Center or discuss with their health care provider. The Employee Health Center will counsel any PI with questions or concerns about the titer.

11. ISSUES FROM THE FLOOR & PUBLIC COMMENTS:

There were no issues from the floor, and no public comments.

12. MEETING ADJOURNED AT APPROXIMATELY 11:56 A.M.