INSTITUTIONAL BIOSAFETY COMMITTEE

UNIVERSITY of WASHINGTON

Meeting Minutes

Date: Wednesday, March 16, 2016
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. Richard Grant, Washington National Primate Research Center
6. David Koelle, Allergy and Infectious Diseases
7. Stephen Libby, Laboratory Medicine (*IBC Chair*)
8. Scott Meschke, Environmental & Occupational Health Sciences
9. Jason Smith, Microbiology
10. Eric Stefansson, Environmental Health & Safety (*Biosafety Officer*)

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 10:02 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 February 17, 2016 meeting.
   - A member made a motion to approve the February 17, 2016 minutes. Another member seconded the motion.
   - The committee voted unanimously, with three abstentions, to approve the February 17, 2016 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.
      - New BUA letters were issued to Dr. McGuire, Dr. Katze, Dr. Gale, Dr. Lee, Dr. Fuller, Dr. Oberst, and Dr. Manicone in response to the IBC's decision in January that BSL-2/ABSL-2 containment was required for working with mouse-adapted influenza virus.
      - Dr. Reh, Dr. Jay Neitz, Dr. Maureen Neitz, Dr. Kim, Dr. Mizumori, Dr. Sellers, Dr. Raskind, Dr. Kelly, Dr. Childers, and Dr. Sodora each added new rooms to their respective approvals.
      - Dr. Stapleton, Dr. Jarvik, Dr. Swisher, Dr. Gibran, and Dr. Kohen each renewed a BUA involving human blood, tissue, cells, and/or body fluids.
      - Dr. Jiao, Dr. Yu, Dr. Kawas, Dr. Fu, and Dr. Lin each received a new BUA approval to work with human source material.
      - Dr. Brindle received a new BUA approval to work with human and non-human primate source material.
      - Dr. Posner received a new BUA approval to work with non-recombinant Chlamydia trachomatis and human source material.
      - Dr. Sauro renewed a BUA involving plasmid DNA used in an in-vitro model.
      - Dr. Bruce added non-recombinant Mycobacterium smegmatis to his BUA approval.
      - 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. Skerrett, Shawn, change, *Host Defense Against Bacterial Pneumonia*
      - The biosafety officer presented the project.
      - This is change request. The investigator is requesting to add wildtype and recombinant strains of *Francisella novicida*, used in mice. This lab has already been

approved for *F. novicida* used in vitro on this protocol, and in animals on another protocol.
- The assigned IBC member endorsed the biosafety officer's review.
- The draft BUA letter was shown.
- The assigned IBC member made a motion to approve the draft BUA for Dr. Skerrett. A second is not needed since he endorsed the review.
- The Committee voted unanimously to approve the draft BUA for Dr. Skerrett.

6. INDIVIDUAL PROJECT REVIEWS

2. Berg, Celeste, new, *Regulation of tubulogenesis in the Drosophila ovary*
- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a new project. The goal of the project is to identify and characterize genes involved in ovary formation in *Drosophila*.
- Transgenic flies are created and used. They are also acquired from a stock center in another state. Dr. Berg has a USDA-APHIS permit for shipping the transgenic *Drosophila*.
- The draft BUA letter was shown.
- The required trainings have been completed, and the biosafety officer inspected the lab.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Berg. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Berg.

3. Bruce, James, change, *Mapping protein-protein interaction network in human serum, sputum, cancer cells, and bacterial cells*
- The assigned IBC Primary Reviewer presented the Primary Review.
- The investigator is requesting to add two recombinant Mycobacterium tuberculosis strains to his current BUA. The strains are attenuated.
- The draft BUA letter was shown.
- The lab has recently been inspected and all trainings are up to date.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Bruce. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Bruce.

4. Crispe, Ian, renewal, *Novel AAV-based tools for liver immunology AND innate immune response to hepatocyte death AND sessile Kupffer cells in liver tolerance*
- The assigned IBC Primary Reviewer presented the Primary Review.
- The investigator researches hepatitis and liver immunology.
- AAV in vitro and in mice is used. Recombinant Hepatitis B virus is used.
- A discussion occurred regarding the post-exposure steps that would be taken if an exposure occurs.
- All personnel will be offered a Hepatitis B vaccine.
- There are still some corrections from the lab inspection that need to be made. The biosafety officer will ensure that these are resolved before the BUA letter is issued.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Crispe. A second is not needed since he is the Primary Reviewer.

- The Committee voted unanimously to approve the draft BUA for Dr. Crispe, pending resolution of some lab inspection deficiencies.

5. Blau, C. Anthony, renewal, *Development of Cell Growth Switch*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The overall goal of the research is to develop technology that allows for control of transplanted cells in response to small molecule drugs.
- Two genes that will be overexpressed in lentiviral vectors show on the oncogene list, EPOR & JAC2. A member commented it shouldn't lead to integration.
- The biosafety officer will verify whether the plasmids are transient or not, and email the IBC reviewer. The biosafety officer will also verify if the oncogenes are wildtype or recombinant.
- A discussion occurred regarding the oncogene guidance sheet.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Blau. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Blau, pending completion of the training and clarification regarding whether the plasmids are transient or not, and whether the oncogenes are wildtype or recombinant.

6. Fink, Pamela, renewal, *Development Influences on TCR Expression*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The overall goal of the project is to understand T-cell maturation in mice, and to discover a method to induce self-tolerance in mature T-cells.
- Several recombinant Risk Group 2 pathogens are used to infect wild-type and transgenic mice, including *Listeria monocytogenes*, vesicular stomatitis virus, *E. coli*, and *Yersinia pseudotuberculosis*.
- The draft BUA letter was shown.
- The *E. coli* used in mice should be listed on the BUA letter under section III-D rather than III-F. The biosafety officer will correct this.
- The biosafety officer inspected the lab. All required trainings have been taken.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Fink. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Fink, pending correction of the BUA letter to state that E. coli in mice falls under section III-D of the NIH Guidelines.

7. Giacani, Lorenzo, renewal, *Studies of the pathogenesis of syphilis and human treponematoses*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The overall goal of the project is to better understand the pathogenesis of human treponematoses (syphilis, yaws, and bejel) infections.
- Several non-recombinant strains of *Treponema* are used in vitro and in a rabbit model. Recombinant strains of *Treponema pallidum* are also used in vitro and in rabbits.
- The draft BUA letter was shown.
- A member pointed out that *T. paraluiscuniculi* is a rabbit pathogen and requested that a comment be added to the front page of the BUA letter: "*Treponema*

paraluiscuniculi is a rabbit pathogen. To protect the welfare of the animal colony, you must contact the Dept. of Comparative Medicine for housing assignment prior to starting work with this agent."

- The biosafety officer inspected the lab. All required trainings have been taken.
- The review mentioned that some BSL-2 signs needed to be posted. These signs have since been posted.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Giacani. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Giacani, pending addition of the comment to the front page of the BUA letter.

8. Lieber, Andre, renewal, *Stem cell and gene therapy of cancer and hematological diseases*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The overall goal of research at the Lieber laboratory is to develop new approaches for cancer therapy.
- On this project, adenoviral vectors and lentiviral vectors are used in a mouse model. Non-human primate tissues as well as human tumor samples are also used.
- The draft BUA letter was shown.
- The biosafety officer inspected the lab. All required trainings have been taken.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Lieber. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Lieber.

9. Mougous, Joseph, change, *Type IV Secretion-Dependent Pathogenesis*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a change request. The investigator is requesting to add a deletion-mutant *Francisella* strain (*Francisella tularensis* holarctica, live vaccine strain).
- The draft BUA letter was shown.
- The lab has recently been inspected by the biosafety officer. All required trainings have been taken.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Mougous. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Mougous.

10. Murry, Charles, change, *AAV Gene Therapy for Heart Failure in Pigs*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a change request to create an atrial flutter model in pigs. Atrial flutter is a condition where the upper chambers of the heart beat too fast and this results in muscle contractions that are faster and out of sync with the lower chambers. Atrial flutter predisposes individuals to strokes and heart attacks and cardiomyopathy.
- The investigator proposes to inject human embryonic stem cells into the scarred region of the heart to assess the effectiveness of stem cell therapy on the treatment of scar-related arrhythmias.
- The pigs will be housed at ABSL-1 after administration of the human cell lines, which would need to be tested to be free of bloodborne pathogens and LCMV (lymphocytic choriomeningitis virus, an animal pathogen).
- An SOP will need to be written about how the cells will be administered and how the biohazardous waste will be properly disposed of as ABSL-2 waste.

- The lab needs to be instructed about which specific pathogens the cell line should be tested for.
- The letter will need to be modified to reflect ABSL-1 housing.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Murry. A second is not needed since she is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Murry, pending biosafety officer review of the SOPs, and modification of the BUA letter to reflect ABSL-1 housing.

11. Park, James, renewal, *Liver cancer theranostics*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The overall goal of the research is to evaluate the therapeutic efficacy and potential toxicity of beta-particle emitting radioisotope-labeled targeted antibody treatment of a mouse model of human liver cancer.
- The committee discussed non-HIV pseudotyped lentiviral vectors. HIV-pseudotyped lentiviral vectors are no longer used.
- There are deficiencies from the lab that need to be resolved. The biosafety officer will make sure these corrections are made before the BUA letter is sent.
- The IACUC protocol has not yet been submitted. The biosafety officer will review the IACUC protocol.
- The radiation safety officer has reviewed the project's use of radioisotope-labeled antibodies.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Park. A second is not needed since she is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Park, contingent on resolution of the lab inspection findings and biosafety officer review of the IACUC protocol.

12. Robinson, Farrel, renewal, *Exploring plasticity of the adult visual system using viral gene delivery*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The goal of the research is to study neural plasticity of the adult mammalian visual system using an adeno-associated viral vector system in macaques.
- The draft BUA letter was shown.
- AAV vectors with photopigment genes or GFP are injected into the eye, and location and level of expression is determined. ABSL-2 containment is used for research involving non-human primate retinal tissue and AAV in a macaque model. BSL-1 containment is appropriate for the in-vitro use of AAV. The biosafety officer will correct this on the BUA letter.
- There are some minor corrections to the BUA application that need to be made. The lab still needs to be inspected.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Robinson. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Robinson, pending corrections to the BUA application, completion of the lab inspection, and modification of the letter to reflect that AAV is BSL-1 when used in-vitro.

13. Smith, Kelly, renewal, *Mucosal Immunity and Microbiota*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The lab studies the role of the host mucosal immune system and commensal microbiota in protecting against infections.
- Salmonella Typhimurium is used in mice as a model for infections, with additional commensal bacteria administered to mice.
- The draft BUA letter was shown.
- The required trainings are up to date. There are a few lab inspection issues that still need to be resolved.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Smith. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Smith, pending resolution of some lab inspection deficiencies.

14. Sullivan, Jane, renewal, *Cellular and Molecular Mechanisms of Synaptic Transmission*

- The assigned IBC Primary Reviewer presented the Primary Review.
- The lab studies synaptic defects in Alzheimer's disease.
- Four viral vector systems are used on the project, AAV, herpes simplex viral vectors, lentiviral vectors, and a Semliki Forest virus vector. Human cells are also used on the project.
- The draft BUA letter was shown.
- The biosafety officer inspected the lab. All required trainings have been taken.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Sullivan. A second is not needed since he is the Primary Reviewer.
- The Committee voted unanimously to approve the draft BUA for Dr. Sullivan.

SUBCOMMITTEE REPORTS:

15. Colby, Lesley, new, *Department of Comparative Medicine SLU3.1 BSL3/ABSL3 Facility*

- Three members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
- The purpose of the BUA is to create a core facility for the BSL-3/ABSL-3 rooms at SLU 3.1.
- The facility has been inspected by EH&S and certified by an outside contractor to be BSL-3/ABSL-3 compliant. SOPs are in place for operation of the facility.
- Each occupant of the BSL-3/ABSL-3 facility will be required to submit their own BUA application before they begin their research.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Colby. Another member seconded the motion.
- The Committee voted unanimously to approve the draft BUA for Dr. Colby.

16. Disis, Mary, new, *A Phase I Trial of the Safety and Immunogenicity of a DNA Plasmid Based Vaccine (WOKVAC) Encoding Epitopes Derived From Three Breast Cancer Antigens (IGFBP-2, HER2, AND IGF-1R) in Patients With Breast Cancer*

- Two members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.

- This is a phase I trial evaluating the safety of pUMVC3-IGFBP2- HER2-IGF1R (WOKVAC), a tri-antigen plasmid DNA vaccine targeting Insulin like growth factor binding protein 2 (IGFBP-2), human epidermal growth factor receptor 2 (HER2), and insulin like growth factor receptor-1 (IGF-1R) in patients with non-metastatic, node positive, HER2 negative breast cancer. This study population intentionally includes patients with no evidence of disease in order to simulate women who have not yet developed breast cancer.
- The consent forms were reviewed, and the subcommittee felt that they are clearly worded and present the possible risks of the treatment in a straightforward manner. The NIH Recombinant DNA Advisory Committee reviewed the study and determined that the study did not require an in-depth review.
- The draft BUA letter was shown.
- The required trainings have been completed. The facility where the plasmid will be administered has been inspected by a biosafety officer.
- A member made a motion to approve the draft BUA letter for Dr. Disis. Another member seconded the motion.
- <u>The Committee voted unanimously to approve the draft BUA for Dr. Disis.</u>

17. WaNPRC Waste Modernization

- The primate center has submitted a request to modify the current waste handling practices for animals that have been experimentally exposed to biohazardous agents.
- Currently, animal technicians manually remove bedding and waste from cage pans, and the waste is then double-bagged and autoclaved prior to disposal in the solid waste stream.
- The primate center would like to use new cages that allow waste to be directed to a trough system for disinfection and then dispensed to the sanitary sewer.
- The contaminated cages and racks will be rinsed with warm water. The rinse water containing animal waste will be held in the trough and a disinfectant will be added. After treatment and appropriate contact time, the waste water will be drained to the sanitary sewer.
- The IBC voted to approve a similar hose-down procedure and disposal of waste via the sanitary sewer system for uninfected primates in December 2014.
- The proposed disinfectant is Process NPD. A member commented that this disinfectant may not completely sterilize or sanitize the waste. Another member clarified that the disinfectant was not expected to sterilize as effectively as an autoclave.
- A member pointed out that this disinfectant process is used in primate centers throughout the country and at NIH's own primate facility.
- A member commented that although he was not concerned about the safety or the effectiveness of the sanitary sewering process, he was unsure whether this proposal would meet all the requirements for proper containment of recombinant DNA waste.
- The IBC chair clarified that the primate center will not initiate the proposed process until NIH OBA is consulted, as well as the King County Board of Health officer. The UW Infectious Waste Committee will also be involved in the final approval process.
- The committee discussed the proposal.
- The IBC Chair made a motion to approve the submitted proposal for continued review, with the understanding that it must be further reviewed and sent to NIH OBA, the King County Public Health department, and the UW Infectious Waste Committee before approval and before implementation. After this additional review and consultation with regulatory agencies, an update will be provided to the IBC and there will be another

vote. Another member seconded the motion. The Committee voted unanimously, with one abstention, on the motion to approve proceeding with the review of this proposal.

FOR YOUR INFORMATION:

- A representative of the Washington National Primate Research Center has joined the IBC.

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.