



# INSTITUTIONAL BIOSAFETY COMMITTEE

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UNIVERSITY *of* WASHINGTON

## Meeting Minutes

**Date:** Wednesday, January 18, 2017

**Time:** 10:00 AM – 12:00 PM

**Location:** Foegen N-130A

- Members Present:**
1. Thea Brabb, Comparative Medicine (*Animal Containment Expert*)
  2. Lesley Colby, Comparative Medicine (*Animal Containment Expert*)
  3. Richard Grant, Washington National Primate Research Center
  4. Garry Hamilton (*Community Member*)
  5. Kevin Hybiske, Allergy and Infectious Diseases
  6. David Koelle, Allergy and Infectious Diseases
  7. Stephen Libby, Laboratory Medicine (*IBC Chair*)
  8. Scott Meschke, Environmental & Occupational Health Sciences
  9. Matthew R. Parsek, Microbiology
  10. David Scarsella, Pacific Northwest Diabetes Research Center (*Community Member*)
  11. Jason Smith, Microbiology (*IBC Vice Chair*)
  12. Eric Stefansson, Environmental Health & Safety (*Biosafety Officer*)
  13. Paul Swenson, Seattle-King Co. Dept. of Public Health (*Community Member*)

### 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 10:00 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 December 14, 2016 meeting.
  - A member made a motion to approve the December 14, 2016 minutes. Another member seconded the motion.
  - The committee voted unanimously, with one abstention, to approve the December 14, 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
    - One member declared a conflict of interest because one of his projects appears on the BSO report.
    - Dr. Leigh renewed a project involving Archaea that falls under section III-E of the NIH Guidelines.
    - Dr. Folch renewed a BUA involving human cells used in vitro. He appears later on the agenda because he is adding human cells transduced with viral vectors.
    - Dr. Jardine, Dr. Lin, and Dr. Dorschner each renewed a BUA involving human source material.
    - Dr. Fang added two non-recombinant species of Risk Group 2 bacteria for in vitro use.
    - Dr. Jayadev added the cell sorting facility to her list of approved locations.
    - Dr. Carothers renewed a BUA involving human source material and recombinant DNA.
    - The PI of the project "*Wnt Genes and Signaling*" was changed from Dr. Randall Moon to Jeanot Muster. The approval lasts until June 2017.
    - Dr. Xu renewed a BUA involving baculovirus. He also started a new BUA involving baculovirus and *Bacillus subtilis*.
    - Dr. Lingappa received an updated BUA after moving her lab from the 1616 Eastlake building to SLU 3.1.
    - Dr. Wang renewed a BUA involving baculovirus and human cells.
    - 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, with one abstention, to approve this month's Biosafety Officer Report.

## 5. INDIVIDUAL PROJECT REVIEWS

1. Chamberlain, Jeffrey, renewal, *Gene Therapy for Neuromuscular Disorders in Canines*
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - The overall goal of the project is to develop a cure or treatment for muscular dystrophy.
  - This project involves using AAV in vitro and in a dog model.
  - The lab has successfully passed the lab inspection and 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. Chamberlain.
  - The Committee voted unanimously to approve the draft BUA for Dr. Chamberlain.
  
2. DePaolo, William, new, *Determine the role of TLR1 signaling in chronic inflammation and colorectal cancer*
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - The goals of the project are to examine how mucosal pathogens, colonic injury, and colon cancer impacts gut homeostasis in mice with genetic defects in molecules that recognize bacteria (toll-like receptors and downstream signaling molecules).
  - Pathogenic *E. coli*, *Yersinia enterocolitica*, *Shigella sonnei*, and *Shigella flexneri* are used in a mouse model.
  - The animals are treated with a drug that is a known carcinogen, azoxymethane. The industrial hygienist is looking into whether this drug is handled per EH&S guidelines for safe use and disposal.
  - The IACUC protocol is still pending.
  - The lab is still being set up and the lab inspection is scheduled for next week.
  - The draft BUA letter was shown.
  - The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. DePaolo, pending a successful lab inspection, the biosafety officer's review of the IACUC protocol, and the industrial hygienist verification of waste disposal for the azoxymethane.
  - The Committee voted unanimously to approve the draft BUA for Dr. DePaolo, pending a successful lab inspection, the biosafety officer's review of the IACUC protocol, and the industrial hygienist verification of waste disposal for the azoxymethane.
  
3. Folch, Albert, change, *Microfluidic analysis of neuronal development and function*
  - The assigned IBC Primary Reviewer presented the Primary Review.
  - This is a significant change requesting to add human cells that have been transduced with lentiviral or gammaretroviral vectors. Transduced cells would be sorted and implanted into mice.
  - The lentiviral vectors are third generation.
  - The gammaretroviral vectors are amphotropic.
  - The lab has successfully passed the lab inspection and all of the required trainings have been completed.

- The BUA letter does not include non-transduced human cells administered to mice. The biosafety officer will check with the PI and see if this should be added to the letter.
  - The draft BUA letter was shown.
  - The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Folch, pending clarification on whether non-transduced human cells should appear on the BUA letter.
  - The Committee voted unanimously to approve the draft BUA for Dr. Folch, pending clarification on whether non-transduced human cells should appear on the BUA letter.
4. Lieber, Andre, new, *In vivo HSC gene therapy in NHPs*
- The assigned IBC Primary Reviewer presented the Primary Review.
  - This is a new BUA from an established investigator. Recombinant adenoviral vectors are used in vitro and administered to macaques.
  - The lab has successfully passed the lab inspection and 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. Lieber. The Committee voted unanimously to approve the draft BUA for Dr. Lieber.
5. Mustari, Michael, change, *Visual Processing and Smooth Eye Movements*
- The assigned IBC Primary Reviewer presented the Primary Review.
  - This is a change request. The investigator is requesting to add AAV, lentiviral vectors, and herpes simplex viral vectors in vitro and in a macaque model.
  - The draft BUA letter was shown.
  - The lab has successfully passed the lab inspection and all of the required trainings have been completed.
  - The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Mustari. The Committee voted unanimously to approve the draft BUA for Dr. Mustari.
6. Rabinovitch, Peter, renewal, *Flow Cytometry Cost Center*
- The assigned IBC Primary Reviewer presented the Primary Review.
  - This is a renewal for a core cell sorting facility operated by the Department of Pathology. All users of this facility will be required to have their cells approved individually by EHS and the IBC. All facility SOP's must be followed by each user.
  - The lab inspection is still pending and the biosafety officer must approve the final SOPs.
  - The draft BUA letter was shown.
  - The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Rabinovitch.
  - The Committee voted unanimously to approve the draft BUA for Dr. Rabinovitch.
7. Reh, Thomas, renewal, *Photoreceptor Survival Factors in Mouse Cell Cultures*
- The assigned IBC Primary Reviewer presented the Primary Review.
  - This is a renewal. The overall goal of the research is to better understand the early steps of retinal development, and to reprogram support cells in the retina to neurons.

- Lentiviral vectors and AAV are used in vitro and in a mouse model. Liposome complexes (falling under section III-E of the NIH Guidelines) are also used.
- The draft BUA letter was shown.
- A laser is used to cause retinal damage in a mouse model. EH&S Radiation Safety has reviewed the laser use SOP.
- The lab has successfully passed the lab inspection and all of the required trainings have been completed.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Reh.
- The Committee voted unanimously to approve the draft BUA for Dr. Reh.

**8. Russell, David, renewal, *Gene and Cell Transfer***

- The assigned IBC Primary Reviewer presented the Primary Review.
- The Russell lab studies gene therapy technologies, in particular recombinant adeno-associated virus, with a goal of treating human genetic diseases.
- The lab uses of a wide range of viral vectors: adenovirus, AAV, lentivirus, gammaretrovirus, and foamy virus. The cells are administered to a wide variety of mammalian cell lines and mice.
- A discussion occurred about the biosafety level of foamyviral vectors with oncogenic inserts. This will be discussed more after the IBC meeting.
- The lab has successfully passed the lab inspection and 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. Russell.
- The Committee voted unanimously to approve the draft BUA for Dr. Russell.

**9. Schwartz, Michael, renewal, *Neuro-endocrine Control of Energy Balance (Mice)***

- The assigned IBC Primary Reviewer presented the Primary Review.
- The overall goal of the project is to examine specific genes and pathways in energy and glucose metabolism. A variety of viral vectors are utilized: adenoviral vectors, AAV, lentiviral vectors, and a rabies virus vector. All are administered into the brain of mice.
- Wild-type LCMV (lymphocytic choriomeningitis virus) is also used in mice.
- The draft BUA letter was shown.
- The LCMV should be listed as III-D\* because it is a wild-type agent used in a transgenic animal model.
- The lab has successfully passed the lab inspection and all of the required trainings have been completed.
- Dr. Schwartz uses radionuclides and has all appropriate authorizations in place from the EH&S Radiation Safety office.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Schwartz, pending the correction of LCMV on the BUA letter.
- The Committee voted unanimously to approve the draft BUA for Dr. Schwartz pending the correction of LCMV on the BUA letter.

**10. Schwartz, Michael, renewal, *Neuro-endocrine Control of Energy Balance (Rat)***

- The assigned IBC Primary Reviewer presented the Primary Review.

- The overall goal of the project is to examine specific genes and pathways in energy and glucose metabolism. A variety of viral vectors are utilized: adenoviral vectors, AAV, lentiviral vectors, and siRNA. All are administered into the brain of rats.
- The LCMV and rabies virus vector are not used on this project.
- The draft BUA letter was shown.
- The lab has successfully passed the lab inspection and all of the required trainings have been completed.
- Dr. Schwartz uses radionuclides and has all appropriate authorizations in place from the EH&S Radiation Safety office.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Schwartz.
- The Committee voted unanimously to approve the draft BUA for Dr. Schwartz.

**11. Schwartz, Jeffrey, renewal, *PET Proliferation-Based Tracers***

- The assigned IBC Primary Reviewer presented the Primary Review.
- The long term goals of the project are to identify markers of radiotherapy response and develop and test new radiation-based cancer treatments.
- Human tumor cell lines, with some cell lines containing amphotropic gammaretroviral vectors with oncogenes, are used on the project.
- The draft BUA letter was shown.
- The lab has successfully passed the lab inspection and all of the required trainings have been completed.
- Dr. Schwartz uses a variety of radioactive materials and has all appropriate authorizations in place from the EH&S Radiation Safety office.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Schwartz.
- The Committee voted unanimously to approve the draft BUA for Dr. Schwartz.

**12. Shendure, Jay, new, *Foegen Flow Lab***

- The assigned IBC Primary Reviewer presented the Primary Review.
- This BUA is to set up a cell sorter core facility BUA. The cell sorter will be operated by Shendure lab personnel only and samples that are brought in from other labs will be required to have an approved BUA.
- An extensive SOP has been prepared for this room.
- The draft BUA letter was shown.
- The lab has successfully passed the lab inspection and all of the required trainings have been completed.
- The air sampler still needs to be tested.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Shendure, pending a demo of the air sampler.
- The Committee voted unanimously to approve the draft BUA for Dr. Shendure, pending a demo of the air sampler.

**13. Stetson, Daniel, change, *Mechanisms and consequences of innate immune detection of nucleic acids***

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a change to add immunization of mice with nanoparticles containing protein and RNA.
- The draft BUA letter was shown.

- The lab has successfully passed the lab inspection and all of the required trainings have been completed.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Stetson.
- The Committee voted unanimously to approve the draft BUA for Dr. Stetson.

**14. Thaler, Joshua, new, *Glial Control of Energy Balance***

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a new application. Dr. Thaler previously was part of the Michael Schwartz lab. The overall goal of the research is to examine the role of specific genes in the regulation of energy and glucose homeostasis.
- AAV, lentiviral vectors, and a rabies virus vector are used on the project.
- The draft BUA letter was shown.
- The lab has successfully passed the lab inspection and all of the required trainings have been completed.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Thaler.
- The Committee voted unanimously to approve the draft BUA for Dr. Thaler.

**15. Tuthill, John, new, *Neural tracing of mechanosensory pathways in Drosophila***

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a new project. The investigator is using viral tools to label neurons in fruit fly brains.
- A replication deficient Sindbis viral vector is used in vitro and in *Drosophila* fruit flies.
- The lab has been inspected, but the fly containment area is not yet set up. The biosafety officer will need to return to inspect the containment area.
- The draft BUA letter was shown.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Tuthill, pending inspection of the fly containment area.
- The Committee voted unanimously to approve the draft BUA for Dr. Tuthill, pending inspection of the fly containment area.

**16. von Moltke, Jakob, change, *Initiation of Type 2 Immune Responses***

- The assigned IBC Primary Reviewer presented the Primary Review.
- This is a change to add lentiviral vectors. The lentiviral vectors will be used in vitro (in mouse and human cells).
- No oncogenes are used.
- The draft BUA letter was shown.
- The lab has successfully passed the lab inspection and all of the required trainings have been completed.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. von Moltke.
- The Committee voted unanimously to approve the draft BUA for Dr. von Moltke.

**17. Woodrow, Kim, renewal, *Drug delivery for developing microbicides and mucosal immunity***

- One member declared a conflict of interest due to a shared grant.
- This is a renewal BUA to continue their projects on testing and improving pre-exposure prophylactic microbicide and vaccine delivery systems for treating or preventing sexually transmitted diseases. Their work focuses on experiments to

determine (1) the extent of distribution, (2) the rate of clearance, and (3) the immunogenicity for small molecule drug, protein, live immune cells, DNA, or DNA-protein complexes alone or in combination as vaccines and microbicides.

- No viruses are used on the protocol.
- The assigned IBC Primary Reviewer presented the Primary Review.
- The draft BUA letter was shown.
- All of the required trainings have been completed. The lab inspection is scheduled for later this week.
- The IBC Primary Reviewer made a motion to approve the draft BUA for Dr. Woodrow, pending successful completion of the lab inspection.
- The Committee voted unanimously to approve the draft BUA for Dr. Woodrow pending successful completion of the lab inspection.

#### **SUBCOMMITTEE REPORTS:**

**18. Krakow, Elizabeth, new, *A Phase I Study of Donor BPX-501 T Cell Infusion for Adults with Recurrent or Minimal Residual Disease Hematologic Malignancies Post-Allogeneic Transplant***

- Three members of the IBC served as the Subcommittee Reviewers.
- This is a new clinical trial application. This multi-center phase I trial will test the safety of infusing genetically modified T cells that contain a molecular “safety switch”, allowing them to be selectively destroyed in the event of graft versus host disease. This study will also test the safety of the drug (Rimiducid) that activates the “safety switch” and kills the T cells in patients that develop graft versus host disease.
- The transduced cells (called BPX-501) are infused into the participants every 30 days. There is one low dose treatment with BPX-501 and two high dose treatments. The patients are then followed for another year. Surviving patients are enrolled in a subsequent study for long-term follow-up. In between BPX-501 doses, the patients are monitored for graft versus host disease. When observed, they are treated with standard care or a low or high dose of Rimiducid, depending on the severity of the graft versus host disease. They are then monitored for resolution of the graft versus host disease before subsequent infusions of BPX-501 can occur.
- There were no concerns from the RAC and it did not require an in-depth review or public discussion.
- The consent forms were reviewed by the subcommittee and found to adequately convey potential risks and benefits of participating in the study.
- All required trainings have been completed.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Krakow.
- The Committee voted unanimously to approve the draft BUA for Dr. Krakow.

**19. Turtle, Cameron, new, *A two-stage Phase 1 open-label study of huJCAR014, CD19-targeted chimeric antigen receptor (CAR)-modified T cells bearing a human binding domain, in adult patients with relapsed or refractory B-cell non-Hodgkin lymphoma and acute lymphocytic leukemia***

- Three members of the IBC served as the Subcommittee Reviewers.
- CAR-T cells are genetically modified autologous cells that target specific cells for destruction by expressing a specificity conferring protein on their surface to bring about physical binding to the target cells, and also possess executioner function(s). In this



clinical trial, CAR-T cells created at another institution will be infused intravenously in a UW facility.

- The proposed research targets two diseases, 1) CD19+ relapsed and or refractory acute lymphoblastic leukemia or Non-Hodgkin lymphoma, and 2) primary mediastinal B cell lymphoma.
- The clinical trial design is one of dose escalation to identify treatment-limiting toxicity followed by an expansion phase to treat additional patients once the best dose is found.
- The consent forms were reviewed by the subcommittee and found to adequately convey potential risks and benefits of participating in the study.
- All required trainings have been completed.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Turtle.
- The Committee voted unanimously to approve the draft BUA for Dr. Turtle.

**20. Gale, Michael, change, *The Host Response to Virus Infection***

- Four members of the IBC served as the Subcommittee Reviewers.
- In 2015, the Gale lab submitted a significant change application to add several strains of Hantavirus (Hantaan, Sin Nombre, and Andes). During the October 21, 2015 IBC meeting, the committee voted to approve the Hantavirus Hantaan and Sin Nombre viruses, but the vote about Hantavirus Andes strain was deferred until a medical management plan was in place in coordination with the Washington State Public Health Lab. This was because there is evidence in the medical literature that the Hantavirus Andes strain can be transmitted from person-to-person.
- The medical management plan is now ready and the Gale lab has resubmitted a BUA change application to add the Andes virus to their approval.
- The medical management plan provides instructions for caring for patients presenting with potential symptoms of exposure to Andes virus and for diagnostic testing
- If personnel who work with Hantavirus Andes strain experience potential symptoms, they are instructed to call the Campus Health Physician, who will provide further instructions. If they are unable to reach the Campus Health Physician, they are instructed to go to Harborview Medical Center ER, where they will be treated in a negative pressure isolation room.
- Respiratory protection will be used when working with Hantavirus. This is a standard component of the BSL-3 program. All researchers will be enrolled in the UW respiratory protection program.
- The draft BUA letter was shown.
- A member made a motion to approve the draft BUA letter for Dr. Gale.
- The Committee voted unanimously to approve the draft BUA for Dr. Gale.

**OTHER VOTING ITEMS:**

**21. Biosafety Manual January 2017 Revision**

- A biosafety officer presented the changes that were made to the Biosafety Manual.
- Information about Dual Use Research of Concern (DURC) regulations was added. Transgenic plants and transgenic plant waste was added to the definition of biohazardous waste. Autoclave safety and monitoring information was updated. The name of the NIH Office of Science Policy (Formerly NIH Office of Biotechnology Activities) was updated.
- A member made a motion to approve the changes to the Biosafety Manual.

- The Committee voted unanimously to approve the changes to the Biosafety Manual.

**FOR YOUR INFORMATION:**

- A research proposal involving pregnant sheep has recently been submitted. Pregnant sheep are known to shed *Coxiella burnetii* and can pose a Q fever risk. The sheep will be contained at ABSL-2 until it can be verified that they are not shedding *Coxiella burnetii*. The Department of Comparative Medicine, IACUC, and EH&S Biosafety are currently working on finalizing SOPs.

**ISSUES FROM THE FLOOR & PUBLIC COMMENTS:**

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

**MEETING ADJOURNED AT APPROXIMATELY 12:10 p.m.**