



INSTITUTIONAL BIOSAFETY COMMITTEE

UNIVERSITY of WASHINGTON

Meeting Minutes

Date: Wednesday, December 12, 2018

Time: 10:00 AM – 12:00 PM

Location: Health Sciences Building, Room T-498

- Members Present:**
1. Thea Brabb, Comparative Medicine (*Animal Containment Expert*)
 2. H.D. “Toby” Bradshaw, Biology (*Plant Expert*)
 3. Lesley Colby, Comparative Medicine (*Animal Containment Expert*)
 4. Richard Grant, Washington National Primate Research Center
 5. Garry Hamilton (*Community Member*)
 6. Kevin Hybiske, Allergy and Infectious Diseases
 7. David Koelle, Allergy and Infectious Diseases
 8. Stephen Libby, Laboratory Medicine (*IBC Chair*)
 9. Tina Rogers (*Community Member*)
 10. Jason Smith, Microbiology (*IBC Vice Chair*)
 11. Eric Stefansson, Environmental Health & Safety (*Biosafety Officer, Animal Containment Expert*)
 12. 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 10:02 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 November 14, 2018 meeting.
 - A member made a motion to approve the November 14, 2018 minutes. Another member seconded the motion.
 - The committee voted unanimously to approve the November 14, 2018 meeting minutes. There were two abstentions from members who were not present at the November meeting.
4. **OLD BUSINESS:**
 - At the May meeting, Dr. Frevert's BUA was approved pending submission to IACUC.
 - At the July meeting, Dr. Patel's BUA was approved pending a lab inspection.
 - At the September meeting, Dr. Greninger's BUA was approved pending a successful lab inspection.
 - At the October meeting, Dr. Rasmussen's BUA was approved pending a lab inspection.
 - At the October meeting, Dr. Stuber's BUA was approved pending a lab inspection and room changes to the BUA letter.
 - At the November meeting, Dr. Bornfeldt's BUA was approved pending additions to the BUA letter.
 - At the November meeting, Dr. Bruchas's BUA was approved pending additions to the BUA letter and a successful lab inspection.
 - At the November meeting, Dr. Steinmetz's BUA was approved pending a successful lab inspection.
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. Hu added a new room for in vitro work with human and non-human primate blood, tissue, body fluids, and cell lines, as well as primate lentivirus, to three of his BUA letters.
 - Dr. Smith added human and murine astrovirus to the BUA *Antiviral Mechanisms of Defensins*.
 - Dr. Park added the ARCF Vivarium to the BUA *Liver cancer theranostics*.
 - Dr. Chen added the ARCF and Foege Vivariums to the BUA *Druggable pathways in rhabdomyosarcoma*.
 - Dr. Polyak removed Poliovirus from the BUA *Virus-Host Interactions in Cell Culture*.
 - Dr. Parsek removed rooms and added other rooms to the BUA *Responses of Pseudomonas aeruginosa to other bacteria in the CF Lung*.

- Dr. Papayannopoulou added the ARCF Vivarium to the BUA *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*.
- Dr. Corey added the ARCF Vivarium to the BUA *Pre-Clinical Models, Mechanisms, and Markers of Prostate Cancer and Prostate Cancer Metastasis*.
- Dr. Plymate added cell analysis facilities to the BUA *Mechanisms of transition to castrate resistant prostate cancer*.
- Dr. Nemhauser's lab for the BUA *Manipulation and Dissection of Growth Control Networks* moved to the Life Sciences Building.
- Dr. Wakimoto's lab for the BUA *Developmental Genetic Analysis of Fertilization Pathways in Drosophila* moved to the Life Sciences Building.
- Dr. Cangelosi renewed the BUA *Novel Detection of Bacterial and Parasitic Pathogens in Clinical and Environmental Samples*, permitting in vitro work at BSL 1 and 2.
- Dr. Pepple renewed the BUA *The role of the innate and adaptive immune system in a novel model of uveitis*, permitting in vitro work with human blood, tissue, body fluids, and cell lines at BSL 2.
- Dr. Barker-Haliski added a new lab for in vitro work with Theiler's murine encephalomyelitis to the BUA *Evaluating the anticonvulsant and disease modifying potential of investigational anticonvulsant drugs in a mouse model of infection-induced seizures*.
- Dr. Mack took over the BUA *Gene Therapy in Canine Myotubular Myopathy phase 2* from Dr. Childers. This BUA uses adeno-associated viral vectors and human cells (tested negative for bloodborne pathogens) in vitro and in dogs.
- Dr. Mack took over the BUA *Stem cell-derived Disease-in-a-Dish Models to Study Neuromuscular Conditions* from Dr. Childers. This BUA uses replication deficient Sendai viral vector oncogenic inserts, non-pathogenic strains of E. coli, human cells transduced with adeno-associated viral vectors (adenovirus free), and human induced pluripotent stem 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 to approve this month's Biosafety Officer Report. One abstention.

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. SECTION III-D AMENDMENTS

- a. Oberst, Andrew, change, *Programmed cell death and immunity*
 - The biosafety officer presented the project.
 - This amendment requests to add the use of vaccinia virus in vitro. This agent was already approved for in vitro use on Dr. Oberst's BUA.
 - This vaccinia virus is replication-incompetent. All laboratory workers have gone through counseling regarding vaccinia vaccination.
 - The lab was recently inspected and no deficiencies were identified.
 - All of the required trainings have been completed.

- 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. Oberst.
 - The Committee voted unanimously to approve the draft BUA for Dr. Oberst.
- b. Dichek, David, change, *Gene Transfer in Cardiovascular Disease (Mice)*
- The biosafety officer presented the project.
 - This amendment requests to add the use of lentiviral vectors in mice.
 - The lab was recently inspected and no deficiencies were identified.
 - All of the required trainings have been completed.
 - 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. Dichek.
 - The Committee voted unanimously to approve the draft BUA for Dr. Dichek.

8. INDIVIDUAL PROJECT REVIEWS

- c. Bosma, Martha, new, *Gap junction in proteins in wave propagation*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This research uses non-viral recombinant or synthetic DNA/RNA to examine the electrical communication through gap junctions, transmembrane ion channels that directly connect the cytoplasm of neighboring cells. This project uses two model systems to study the role of innexin in hydra and connexins in mice.
 - The lab inspection is scheduled, but has not yet been completed.
 - 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. Bosma.
 - The Committee voted unanimously to approve the draft BUA for Dr. Bosma.
- d. Buffalo, Elizabeth, new, *Neurology of Memory*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This research injects viral vectors into non-human primates to increase understanding of the anatomical pathways between memory structures and for ultimate manipulation of electrical activity in the brain.
 - The lab was recently inspected, so a new lab inspection is not 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. Buffalo.
 - The Committee voted unanimously to approve the draft BUA for Dr. Buffalo.
- e. Deng, Xinxian, new, *Gene-by-gene studies of dosage regulation pathways of the mammalian active X chromosome*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This research will use gene-by-gene studies of dosage regulation pathways of the active X chromosome that may provide a better understanding of molecular mechanisms that compensate for anomalies in critical dosage-sensitive genes during development and of the consequences of pathogenic CNVs, often associated with

birth defects and diseases. The research uses plasmid DNA, human blood, and lentiviral vector transduction of human and mouse cells.

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

f. Hawkins, R. David, renewal, *Epigenomics of Various Stem Cells*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This project studies epigenomics across humans and non-human primates to better understand gene regulation.
- The greatest risk is work with lentiviral vectors used in vitro.
- Use of flow cytometry may be removed from the letter, pending response from PI.
- 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. Hawkins.
- The Committee voted unanimously to approve the draft BUA for Dr. Hawkins.

g. Mougous, Joseph, change, *Type VI secretion-dependent interbacterial interactions*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This project is adding in vitro use of Mycobacterium abscessus to manipulate genes involved in bacterial interactions and pathogenesis in human cells in a wide range of bacterial pathogens.
- The biosafety officer will follow up with Dr. Mougous to find out if the enzyme that confers kanamycin resistant to Mycobacterium abscessus during transposon mutagenesis also confers resistance to the related antibiotics amikacin or tobramycin. If the mutagenesis protocol were to induce resistance to related aminoglycoside antibacterials, additional engineering controls, occupational health considerations, and additional IBC review would be warranted.
- The IBC Chair made a motion to table this BUA review for Dr. Mougous until January 2019.
- The Committee voted unanimously to table the draft BUA for Dr. Mougous.

h. Pun, Suzie, renewal, *Biomaterials for Biomedical Applications*

- The assigned IBC Primary Reviewer presented the Primary Review.
- This lab develops biomaterials, such as drugs, peptides, and polymers, for therapeutic use against cancer, CNS disorders, kidney disease, and traumatic injuries.
- The greatest biohazard to laboratory staff is the use of cytotoxic formulations (chemotherapeutics).
- 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. Pun.
- The Committee voted unanimously to approve the draft BUA for Dr. Pun.

- i. Rajagopal, Lakshmi, renewal, *Ascending GBS Infection*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - The goal of this research is to understand how virulence factors and their regulatory systems affect Group B Streptococcus (GBS) associated preterm birth. Mutant and wild-type GBS strains containing recombinant fluorescent or bioluminescent markers are administered to wild-type pregnant mice at UW.
 - Work with (GBS) is the greatest biohazard to laboratory staff.
 - Zip Car was proposed by the PI as a means of transporting GBS from Seattle Children's Research Institute to UW. Zip Car cannot be used to transport these or any other biohazards.
 - A lab inspection is not required because agents are being administered under a core approval.
 - 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. Rajagopal pending no use of Zip Car.
 - The Committee voted unanimously to approve the draft BUA for Dr. Rajagopal. The PI needs to remove Zip Car from BUA application.
- j. Regnier, Michael
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This research uses adeno and adeno-associated viral vectors to find ways to improve the function of heart muscle cells that have either experienced acute damage (myocardial infarct) or show cardiomyopathy.
 - The greatest biohazards are the use of human tissue and cells lines, as well as the in vitro and in vivo use of replication deficient adenovirus.
 - The lab inspection is scheduled, but has not yet been completed.
 - 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. Regnier pending a successful lab inspection.
 - The Committee voted unanimously to approve the draft BUA for Dr. Regnier pending a successful lab inspection.
- k. Robinson, Farrel, renewal, *Exploring plasticity of the adult visual system using viral gene therapy*
- The assigned IBC Secondary Reviewer presented the Primary Review.
 - Adeno-associated viral vectors are used in rhesus macaques to study the molecular biology of vision and the underlying genetic factors that contribute to vision problems.
 - The lab inspection is scheduled, but has not yet been completed.
 - 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. Robinson.
 - The Committee voted unanimously to approve the draft BUA for Dr. Robinson.

- I. Van Voorhis, Wes, change, *1. Immune Response: Chagas 2. Biochemistry of Protein Prenylation 3. Plasmodium falciparum Protein Farnesyltransferase Inhibitors 4. Drugs for Toxoplasma and Cryptosporidium 5. Giardia 6. Shigella Inhibitors*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This research on models for human environmental enteropathy is adding recombinant *Cryptosporidium tyzzeri*, non-recombinant *Campylobacter jejuni*, non-recombinant *Delftia* species, and non-recombinant non-pathogenic *E. coli* strains for use in vitro and in vivo in wild-type and transgenic mice.
 - The lab was recently inspected, so a new lab inspection is not 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. Van Voorhis.
 - The Committee voted unanimously to approve the draft BUA for Dr. Van Voorhis.
- m. Wang, Wang, renewal, *Role of mitochondrial reactive oxygen species in cardiac function and dysfunction*
- The assigned IBC Primary Reviewer presented the Primary Review.
 - This lab studies mitochondrial function in the heart by using standard cloning in K-12 *E. coli*, human and rodent cell culture, transgenic mice, adenoviral and lentiviral vectors in cell culture and adeno-associated viral vectors in vivo.
 - Non-human primate tissue obtainment is listed in question 11 of the BUA application, but no work is listed with this tissue. The biosafety will ask the PI for clarification.
 - 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. Wang.
 - The Committee voted unanimously to approve the draft BUA for Dr. Wang.

9. SUBCOMMITTEE REPORTS:

- n. Turtle, Cameron, renewal, *A Phase 1b study of JCAR014, autologous T cells engineered to express a CD19-specific chimeric antigen receptor, in combination with durvalumab for relapsed/refractory B-cell non-Hodgkin lymphoma*
- Two members of the IBC served as the Subcommittee Reviewers. One of the Subcommittee Reviewers presented the Subcommittee Report.
 - This is an ongoing clinical trial with infusions and medical care at UWMC that uses JCAR014 genetically engineered self T cells that express a chimeric antigen receptor and Durvalumab, an FDA-approved monoclonal antibody that binds PD-L1 to block its interactions with PD-1 and CD80. The hope is that the combination of increasing the number of cells that can recognize NHL cells and reducing inhibitory influences mediated by PD-L1 will synergize for an anti-NHL effect.
 - The greatest biohazard risk to personnel is sharp needle parenteral administration of JCAR014 T cells during cell product reconstitution or administration, which is highly unlikely.
 - A lab inspection is not required.

- 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. Turtle. Another member seconded the motion.
- The Committee voted unanimously to approve the draft BUA for Dr. Turtle.

10. FOR YOUR INFORMATION:

- **Amended Approval Letter for Kerr (0528-003-004):** An agent was incorrectly listed on Dr. Kerr's BUA letter. The BUA will be reissued, and will appear on the biosafety report in January 2019. Dr. Kerr is aware of this amendment.
- **Approved Chemical Indicators for Autoclaving Biological Waste:** The chemical integrator Thermalog-S, required for steam sterilization of biohazardous waste, is no longer manufactured or available for purchase by 3M or other vendors. Public Health Seattle King County granted approval for use of the 3M Comply Thermalog Steam Chemical Integrator and the 3M Comply SteriGage. EH&S is updating all documents to reflect these changes.
- **IBC Bioengineering Member:** The IBC Chair asked committee members to refer Bioengineering personnel for possible IBC membership in 2019.

11. ISSUES FROM THE FLOOR & PUBLIC COMMENTS:

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

12. MEETING ADJOURNED AT APPROXIMATELY 11:22 A.M.