Boston University
Institutional Biosafety Committee (IBC)
July 21, 2020 Meeting Minutes
Location: Zoom and/or by phone
Start time: 12:00 PM End time: 3:23 PM

Members Present: I. Afasizheva, B. Slack, E. Muhlberger, C. Abraham, X. Brown, E. Loechler (joined 12:07 PM), R. Morales, T. Winters, R. Varada (left 3:21 PM), S. Kurnick, J. Keeney, R. Timmerman (joined 12:04 PM)
Guests Present: T. Killeen, N. Yun, S. Benjamin, F. Ennever, A. Ahmad, J. Davis, D. Stern, K. Tuohey
Staff Present: J. Hutchinson, S. Ghosh

I. Review of June 16, 2020 IBC Meeting Minutes
No comments or questions were voiced.
Motion: Approve
For: 11; Against: 0; Abstain: 0; Absent: 1

II. Chair Report: The Chair reported that this is her last meeting as Chair, thanked everyone for their time and service, and mentioned three (3) initiatives that were discussed during her time as Chair: 1) IBC review process changes; 2) communication with the Division of Medical Physics and Radiation Safety regarding the safe disposal of radioactive material; and 3) discussion by the Laboratory Safety Committee (and its Chemical Safety Subcommittee) regarding the safe use of ethidium bromide.

III. New Business

A. Safety & Quality Assurance Program (SQAP) Report

i. **Studies occurring in BMC clinical space**: It was reported that Section IX of the IBC application has been modified to remove Dr. Sulis as the point of contact when studies are occurring in BMC clinical space. If Dr. Sulis was previously contacted, this information will remain in the application for reference. Moving forward, EHS staff will evaluate this section of the application. There were no questions or comments voiced regarding this change.

ii. **Proposal - IBC review process changes**: A new policy (Review and Approval of Biological Use Authorizations Submitted to the IBC) was presented describing the allowable methods of BUA review including a new Designated Member Review (DMR) process (modeled off of the process used by the IACUC). Minor revisions were made to the policy in advance of the meeting based on member feedback. The policy outlines the process and includes criteria for determining when full committee review is required, for determining if DMR may be appropriate, and for determining what amendments can be reviewed administratively. It was emphasized that as part of the DMR process that all members will receive a list of submissions where DMR is being proposed and that any member may request to send the application to the full committee for review. Five (5) business days was mentioned as a reasonable time period for designated member reviewers to provide their comments. It was noted that the policy applies to research conducted at Boston Medical Center (BMC); the covered parties portion of the policy will be evaluated to ensure consistency with other documents (such as the Chemical Hygiene Plan) that also apply to research being done at BMC.
Motion: Approve
For: 12; Against: 0; Abstain: 0; Absent: 0

B. Environmental Health and Safety (EHS) & Research Occupational Health Program (ROHP) Report

i. **BPHC BSL-3 Inspection**: The BSL-3 Biosafety Officer (BSO) informed the committee of a recent inspection by the Boston Public Health Commissions (BPHC) reporting that the entire inspection was done virtually including document review. A tour of the BSL-3 containment space was provided to the inspector via a video feed viewed in a conference room at the NEIDL. Personnel were interviewed including PI's, postdoc's, and animal care and facilities staff. She reported that overall, the inspection went well and that the final report will be shared upon receipt.

ii. **Incident Reports:**

7/1/2020 – ROHP Report: A project manager was bit by a rat while checking its identification tag. The rat was a transgenic ABSL-1 male rat (transgenic rat model of Alzheimer's disease (TgF344-AD)) that over expresses amyloid beta with plaques of Alzheimer's but did not contain any other biological, toxin or chemical agents. She washed the wounds immediately with soap and water followed by 70% ethanol and washed again upon arrival to ROHP. She is up to date with her Tdap vaccination and was provided first aid treatment and given an antibiotic for prophylaxis. This incident was reported to BPHC. **EHS Report:** This rat was commercially sourced, and this incident is not reportable to NIH OSP. No other hazardous materials/ rDNA was introduced and it was confirmed by the researcher that there is no inducible promoter responsible for gene expression. The researcher suggested that the rats could have been acclimated by handling more prior to performing the ear punch checks done by the laboratory, this was suggested to prevent recurrence.

6/16/20 – ROHP Report: A researcher accidentally stuck his finger with a needle containing a CCL3 agent (Tamoxifen) used on an ABSL-1 transgenic mouse; there was no injection of Tamoxifen. He reported that the mouse kicked the needle causing it to prick his finger through his gloves. He irrigated the site for 15 minutes and was evaluated and counseled by ROHP. His Tdap vaccination is up to date. This incident was reported to BPHC. **EHS Report:** Two (2) commercially purchased transgenic mouse lines were crossed to generate a new breed of mice. These mice were not subjected to rDNA or other biological hazardous agents exogenously; this transgene was reported by the PI to have little to no risk to humans. The PI indicated that Cs3cr1-CreERT2 mice express Cre recombinase fused to a mutated estrogen receptor, which is only activated by exogeneous tamoxifen. No transduced cells were added to the animal prior to the accidental needlestick. The researcher reported that he was new to procedurally injecting mice with substances and was referred to the animal trainer for additional support. It was determined that this incident is not reportable to NIH OSP. The root cause was determined to be insufficient skills/expertise and to prevent recurrence, the researcher was asked to complete the Sharps Safety Training in BioRAFT and meet with the animal trainer to review technique and become proficient before administering hazardous agents.

6/26/20 – EHS Report: The Animal Science Center (ASC) reported that some animal health cases were flagged for a lab working with prions. It was discovered that the animals had been injected on 2/13/20 and their cages labeled with the acronym RML (Rocky Mountain Labs) however, the lab did not complete the necessary prion cage cards and disinfecting notifications letting ASC personnel know that the injections had been done. ASC staff corrected the cage labeling and contacted the lab to request this information be provided in the future. EHS contacted the PI who indicated that the lab has been performing prion inoculation experiments for the past 5-6 years and were not aware of the labeling requirements for animal cage cards. A picture of the "Post Experimental Observation Card" and a picture of the "LpH Disinfectant Sticker" were emailed to the PI and lab members listed on the approved IACUC protocol. The importance of labeling animal cages was highlighted by EHS. The PI indicated that he is happy to accommodate the request and implement changes for cage card labeling. The root cause was determined to be no procedure/inadequate procedure. The Animal Welfare Program staff investigated the occurrence and indicated that it seemed that the cage card labeling policies, procedures and training may be different among committees and departments. To prevent recurrence, it was recommended that cage card labeling policies, procedures and training be updated and standardized for both campuses.

IV. Protocol Review

1. rDNA/Bhz – Amendment

BUA	(PI)	Title	BSL	ABSL	Campus

2443		Investigating host-pathogen interactions regulating the pathogenesis and immunogenicity of BSL-3 viral agents.	3	3	BUMC
Primary Reviewer: Elke Muhlberger Additional Reviewer: Shannon Benjamin		Secondary Reviewer: Rao Varada			
Applicable NIH Guidelines: Sections III-D-1-a, III-D-1-b, III-D-2-a, III-D-3-a, III-D-4-b, III-E-1; Appendix-B-II-D, Appendix G-II-B					
Meeting comments: The PI is adding five (5) new procedures related to: i) nasal swab processing for single cell RNA sequencing, ii) live cell imaging, iii) automated and manual tissue dissociation, iv) automated cell purification; and v) in vivo imaging. It was noted that all procedures are well described, and associated SOPs reviewed by EHS. Members discussed that the in vivo imaging procedures need to be clarified; it was noted by one of the veterinarians that mice will not be anesthetized but will be restrained during injection of the substrate and that the rest of the procedure (including fur removal) will be done under anesthesia. It was noted that nasal swabs are being received per an IRB approved protocol of another NEIDL investigator and that there is an IACUC approved protocol covering the animal work. • Clarify the *in vivo* imaging procedures including for what aspects of the procedure mice will be anesthetized.					
Motion: Conditional Approval (Administrative Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

2. rDNA/Bhz – Amendment

BUA	(PI)	Title	BSL	ABSL	Campus
2397		Host and viral determinants regulating Flaviviridae pathogenesis and immunogenicity.	2	N/A	BUMC
Primary Reviewer: Elke Muhlberger Additional Reviewer: Shannon Benjamin		Secondary Reviewer: Ron Morales			
Applicable NIH Guidelines: Sections III-D-1-a, III-D-2-a, III-D-3-a, III-E-1; Appendix-B-II-D, Appendix G-II-B					
Meeting comments: The PI is adding work with live mosquitos infected with dengue virus in the insectary. It was noted that the work mirrors work that was previously approved by the IBC under another NEIDL investigator (who is leaving BU) and is well described, and that extensive experience in handling infected mosquitos is provided for Dr. Feitosa-Suntheimer who is being added to the protocol. It was clarified that dengue virus is a risk group 2 agent and that the work requires an ACL-2 facility and practices. SQAP staff reported that IT is working on updating the application form so that PIs can indicate when shipping training is not applicable to a protocol. • III. Personnel Information: Since this is a BSL-2 protocol, the descriptive role of F. Feitosa-Suntheimer and A. Gold should be changed from BSL-3 to BSL-2. • F. Feitosa-Suntheimer's shipping training should be updated if she will be shipping materials under this protocol.					
Motion: Conditional Approval (Administrative Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

3. rDNA/Bhz – Amendment

BUA	(PI)	Title	BSL	ABSL	Campus
2286		Biomolecule Production Core – Propagating BSL4 pathogens	4	N/A	BUMC
Primary Reviewer: Inna Afasizheva		Secondary Reviewer: Nadya Yun			
Applicable NIH Guidelines: Section III-D-1-a, III-D-1-b, III-D-1-c					
Meeting comments: The PI is adding brain organoids derived from human glioblastoma stem cells or induced pluripotent stem cells obtained from the University of Connecticut for use at BSL-4. *The PI was not present for the review or vote.*					
Motion: Approve	For: 11	Recuse: 1	Against: 0	Abstain: 0	Absent: 0

4. rDNA/Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus

1336		Effects of gene knockdown (Sigma-1 receptor, CRF and CRF-1 receptor, DeltaFosB, DeltaJunD, etc.) on signal transduction systems.	2	2	BUMC

Primary Reviewer: Xin Brown	Secondary Reviewer: Susanna Kurnick

Applicable NIH Guidelines: Section III-E-1, Appendix B-2

Meeting comments: The goal of the project is to better understand the molecular mechanism of alcohol and food addiction. The PI's lab will use recombinant adeno-associated (AAV) virus or lentiviral vectors to knock down or overexpress transcription factors in rats or mice; viruses are obtained from different institutions and injected into mouse or rat brains. The expression levels of the proteins of interest will be measured by western blot, immunohistochemistry and real-time PCR.

- Personnel:
  - C. Moore is listed as the lab safety officer, but not listed as personnel; clarify if a new lab safety officer should be listed.
  - Provide requested information for Erhard and Miracle.
  - M. Minnig and S. Quadir's rDNA training needs to be updated.
  - Ensure that all listed personnel have current ROHP clearance for this protocol.
- Research Project Description: It is stated that "we will use adeno-associated (AAV) viruses or lentiviral vectors", but later on it is stated "Since only AAVs will be used, ABSL1 procedures will be used." The use of lentivirus should be clarified/reconciled throughout including in animal studies, if used, should be BSL-2.
- PPE:
  - Update the BSC certification date.
  - It is stated that "Scalpels and other sharp reusable instruments will he disinfected prior to careful washing." Disinfection and cleaning methods should be described.
  - "Liquid waste will be in contact with a 10% bleach solution for at least 30 min before dumping down the drain." When treating liquid waste, a final concentration of 10% bleach should be used.
  - "All biohazardous waste will be disposed in the biohazard waste bag, double tied." Biohazardous wasted should be double bagged, not just double tied.
  - "Recombinant viruses will be stored in the deep freezer in ." It is not clear whether anyone can access . Clarify if access to this space is via card access.
  - "The material will be contained a leak and shatter-proof waste containers for the transport." Clarify if the material will be contained in leak and shatter-proof secondary containers for transport.
  - Check off animal handling and cage changing.
  - Scalpel blades should not be reused; clarify that only the handle is re-used.
  - If colchicine is considered a CCL3 agent, ensure that PPE guidelines for CCL3 agents are reflected in the protocol including the use of double gloves and a BSC for work involving animals.
- Materials Used in Research:
  - Lentiviral vectors are not included, only AAV; clarify/reconcile the use of lentiviral vectors.
  - Provide rDNA host-vector donor information.

Site Assessment: All personnel have current ROHP clearance; there are a few training issues; the BSC is certified; the fume hood needs to be certified; the CCL is appropriate; and the use of lentivirus needs to be clarified.

Motion: Conditional Approval (Primary and Secondary Reviewer Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

5. Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus
1592		Vitamin D Status, Pneumonia, and Growth in a Pediatric Andean Population	2	N/A	BUMC

Primary Reviewer: Tom Winters	Secondary Reviewer: Bob Timmerman

Applicable NIH Guidelines: N/A

Meeting comments: Human serum samples will be stored in a freezer. The goal is to assess vitamin D status and correlate with pneumonia diagnoses in children in Ecuador. Risk is minimal, samples were previously collected from two (2) completed clinical trials and the current protocol simply covers storage of the samples in a freezer (there will be no lab manipulation using the samples). Glass pipettes will be used and disposed of in sharps containers. Disinfectant use will be 10% bleach or 70% ethanol. PPE includes safety glasses, surgical masks, and double gloves. There is current IRB approval.

- Clarify if glass pipettes need to be used or if plastic pipettes would be sufficient.

Site Assessment: An Exposure Control Plan (ECP) needs to be adopted; ROHP clearance needs to be updated for two (2) people; the BSC is expired and the fume hood certification expires at the end of the month.

Motion: Conditional Approval (Administrative Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

6. rDNA/Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus
2246		Stem cells in lung development and disease	2	2	BUMC

Primary Reviewer: Inna Afasizheva	Secondary Reviewer: Rao Varada

Applicable NIH Guidelines: Sections III-D-1-a, III-D-2-a, III-D-4-a, III-E-1; Appendix C-VIII, M-II -A-1-b-(1)

Meeting comments: The lab seeks to identify stem cells and molecular pathways of lung regeneration in rodents and primates. The main objective is identifying epithelial stem cells in adult lungs that have the capacity to generate new alveolar tissue and microenvironment composition that triggers regeneration. Due to inability to perform lung injury studies on humans, and a lack of similarities in lung regeneration in most model organisms, this project aims to use a mouse model to search for cells with the ability to generate new alveolar epithelium and use rhesus macaques to validate data. Primary cells will be isolated from mice or macaques after euthanasia and used for cell culturing. Harvested lungs will be used for preparation of single cell suspensions to perform flow cytometry (FACS) and qRCR/RNA analysis. In some cases, animals will be subject to surgical or inhalational studies. It was noted that there is an IACUC approved protocol covering this work that will require renewal in August; one of the veterinarians indicated that she will reach out to the PI regarding the animal work which is believed to have been on hold due to the COVID-19 pandemic.

- Ensure that training is current for all listed personnel.
- Update the BSC certification date.
- Lentivirus procedures do not include safety procedures; update the protocol to indicate use of a BSC.
- Add RNA isolation procedures to the first paragraph on page 14 (indicating that aerosol producing manipulations are performed in a BSC).
- Page 17. 7A. time for incubation with bleach should be changed to 30 minutes.
- VII-3:
    - i) The NEIDL clinical veterinarian named in the protocol should be updated.
    - ii) Provide additional details on how the SO2 exposure of mice or NHPs is achieved.
    - iii) Clarify how primary minipig tissues or cells will be obtained.
- VIII-8: Provide details on how instruments and tools will be cleaned/disinfected.

Site Assessment: Shipping training needs to be completed; and lab has access to 30 certified BSC's.

Motion: Conditional Approval (Administrative Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

7. Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus
1291		Regulation of airway smooth muscle phenotype by retinoic acid	1	1	BUMC

Primary Reviewer: Ed Loechler	Secondary Reviewer: Susanna Kurnick

Applicable NIH Guidelines: N/A

Meeting Comments: The purpose of this study is to understand the mechanisms of muscular control of lung's airway caliber, particularly if vitamin A in diet has any role in the process and how it relates to asthma pathogenesis.

Transgenic mice expressing fluorescent proteins are used to study the molecular pathways. Proteins under investigation are conditionally expressed via Cre-recombinase using Tamoxifen. Reviewers indicated that the application is poorly written (including the description of objectives and laboratory procedures), making review difficult. For the animal work, the IACUC protocol is referenced rather than providing relevant details in the application, making risk assessment difficult. Members were informed that Tamoxifen is no longer listed on BU's high hazard chemical list and it was noted that mouse primary cells and cell lines are not considered to be biohazardous material. Since the protocol does not appear to include any biohazardous material or any rDNA work, it is unclear whether the protocol needs IBC approval. Veterinary members of the committee indicated that Tamoxifen is a CCL3 agent and its use in the animal facility is governed accordingly. Members discussed that a revised protocol should be submitted to address comments and so it can be determined if IBC approval is required.

- Detail the work being conducted as requested in the application; more information is needed.
- Complete or revise run-on sentences in the Research Project Description, for example: "vitamin control A controls..." or "Most of the time, protein or RNA is extracted from cells, they are placed in culture, or are subjected to antibody staining."
- The laboratory procedure section states "Cells were described as being transported in conical tubes on ice", but then later in the same paragraph were described to be wrapped in absorbent paper, inside a leak proof, shatter proof secondary container - reconcile.
- It is stated that "we employ well described transgenic mice that have a normal phenotype; indicate the character of the transgenic mice.
- Describe briefly the safety measures taken in handling Tamoxifen (CCL3 agent).
- There are more individuals listed as animal handlers on the IACUC protocol than on the IBC protocol; list them on the IBC application as appropriate.
- VIII: check off animal handling, cage changing.
- Indicate that goggles will be used (as described in section VII).
- Update the BSC certification date.
- Indicate the percentage of Wescodyne that will be used in question 8.

Site Assessment: BUA has not been completed yet as the PI was not available.

Motion: Defer	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

8. Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus
877		Functional Studies of Granulocyte Membranes	2	N/A	BUMC

Primary Reviewer: Barbara Slack | Secondary Reviewer: Jim Keeney

Applicable NIH Guidelines: N/A

Meeting comments: The protocol involves propagating four (4) different BSL-2 Mycobacterium strains obtained from ATCC, labeling them with fluorescent probes, and using them to infect monocytes or neutrophils isolated from blood samples collected from patients at BMC. The infected cells will be assayed via fluorimetry and flow cytometry under varying conditions to identify factors that affect survival and replication of bacteria within cells. It was noted that the PI indicates that they will deviate from Flow Cytometry Core SOPs and that no SOPs for the core could be found on the cores website as the IBC application suggests.

- Clarify where bacterial culture procedures will be carried out. The first sentence of Lab Procedures states that "All bacterial culture procedures will be performed in the clinical Mycobacterial Laboratory facility at the [Hinton] State Laboratory". However, the Project Description states that bacterial strains from ATCC will be "grown and maintained in broth medium in the Pulmonary laboratory on R3." Confirm that this protocol is confined to BSL-2 strains from ATCC and will not include clinical isolates from patients. Remove references to the State lab if no longer applicable.
- If applicable, provide additional details regarding how samples will be safely transported to and from the State lab. Section VIII.11 states that BSL-2 strains will be transported to BU from the State lab in standard

screw-top containers. If this is still the case, state the nature of the bacterial cultures that will be shipped to BU from the State lab (i.e. liquid culture; agar stab culture etc). Site Assessment: A site assessment has not been done for this protocol.					
Motion: Conditional Approval (Administrative Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

9. rDNA/Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus
2234		Mechanisms of cortical oscillations	1	1	CRC

Primary Reviewer: Ed Loechler	Secondary Reviewer: Susanna Kurnick
Applicable NIH Guidelines: Section III-E-1, Section III-D-4-a, Appendix B-I	

Meeting comments: The goal of this project is to investigate the mechanisms of cortical oscillations in the brain that are involved in cognitive and sensory processing. The impact of anesthesia on these oscillations in vivo is also being investigated. The goal is to develop a simplified computational model to describe these oscillations. Commercially available transgenic mice are used: one set of transgenic mice express Cre/LoxP system to analyze cell type specific effects; and a second set of transgenic mice express genetically encoded calcium sensors (i.e. GCaMP) that allow optical monitoring of neural activity, or optogenetic molecules such as channelrhodopsins, archearhodopsins, and halorhodopsins that permit control of neural activity with light. None of these transgenes introduce adverse effects to the mouse phenotype. It was noted that mating of these transgenic lines is also done to express different indicators in specific neuronal populations. Adeno-Associated Virus (AAV) stocks obtained from UPenn or UNC will be aliquoted in a biosafety cabinet and stored in a -80 C freezer. Viruses are slowly infused into the mouse's brain to cause brain cells to express genetically encoded calcium indicators or different optogenetic tools, such as channel rhodopsins, chronos, archearhodopsins, and halorhodopsins. All injections are done in a single surgery. Mice will be anesthetized, and a small craniotomy will be made at the target location, using a stereotaxic device. Animal experiments include two-photon imaging, intracellular recordings, or electrical recording of local field potential from awake or anesthetized animals. In-vitro experiments involve sacrificing the animal and generating brain slices, from which intracellular recordings will be performed using standard whole-cell patch clamp methods.

- Briefly describe what 'theta oscillation' is for reviewers that do not work in this field and may not be familiar with this term.
- The proposal mentions obtaining viruses from UPenn or UNC, while Section IX.A.1. also mentions MIT and University of Florida - reconcile.
- Ensure that rDNA/IBC policy training is current for all listed personnel.
- Check off animal handling, cage changing as well as animal inoculation (AAV is considered an inoculation) in the PPE section.
- Update the biosafety cabinet certification date.
- The IACUC protocol listed 18-011 (PROTO201800599) has tetrodotoxin listed as a substance administered to mice. Clarify if this protocol is intended to cover the use of tetrodotoxin in experiments. If so, check the Select Biological Toxins box in Materials Used in Research (Section IX) and provide tetrodotoxin details in Section D including quantity and what practices will be used.
- Clarify if human cell lines are being used.

Site Assessment: BSC is certified; training is current; and if using human cell lines, should be BSL-2.

Motion: Conditional Approval (Administrative Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

10. Bhz – Three Year Renewal

BUA	(PI)	Title	BSL	ABSL	Campus
935		Lens-Amyloid: Biochemistry and Diagnostic Imaging Clinical validation of a laser eye scanner for AD Effects of Blast Neurotrauma on Alzheimers Disease Pathogenesis	2	2	BUMC

		CTE and posttraumatic neurodegeneration: neuropathology and ex vivo imaging Mechanisms of Repetitive Neurotrauma and Chronic Traumatic Encephalopathy (CTE): Pathways to Diagnosis, Treatment, Protection, and Prevention Gadolinium Distribution in Rat Brain After Systemic Administration of Gadolinium-Based Contrast Agents Assessed by High-Resolution Metallomic Imaging Mass Spectrometry (MIMS)			

Primary Reviewer: Barbara Slack	Secondary Reviewer: Rao Varada

Applicable NIH Guidelines: N/A

Meeting comments: The lab investigates mechanisms of two brain related diseases, Alzheimer's Disease (AD) and Traumatic Brain Injury (TBI). In the first project, AD-like changes are analyzed in the eye lenses of anesthetized transgenic mice using laser-based methods. In the second project, mechanistic links between blast neurotrauma and chronic effects of TBI are analyzed by injecting homogenates of human brain with or without chronic traumatic encephalopathy (CTE) into mice and following disease development. Occurrence of prion protein and amyloid plaque in the lenses from eyes of CJD patients are analyzed by histochemistry. Lens homogenates and brain slices of human and non-human primates are also analyzed by immunohistochemistry, stereomicroscopy, light-scattering and fluorescent correlation microscopy. It was noted that there is an IACUC approved protocol covering the chronic traumatic encephalopathy work.

- Section III. Update personnel list, at least one person listed ( ) is no longer in the lab.
- Section VIII.1. Check animal inoculations (rodent brains to be injected with human brain homogenates).
- Clarify what PPE will be used in the lab. For animal work, surgical masks and shoe covers should be used.
- Specify the duration for inactivation of prion infected samples.
- Consult with EHS for recommendations on the use of cut resistant gloves.

Site Assessment: No findings.

Motion: Conditional Approval (Administrative Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

11. rDNA/Bhz – New Protocol

BUA	(PI)	Title	BSL	ABSL	Campus
2462		Transcriptome analysis during mitosis	2	N/A	BUMC

Primary Reviewer: Carmela Abraham	Secondary Reviewer: Jim Keeney

Applicable NIH Guidelines: Sections III-D-1-a, III-D-2-a, Section III-E-1

Meeting comments: The goal of this project is to understand how transcriptional regulation is altered during mitosis and meiosis using the following techniques: 1) creation of plasmids; 2) protein expression and purification using bacculovirus and Sf9 cells; 3) some plasmids will be used in conjunction with T7 or Sp6 to produce RNA in vitro; 4) some proteins and plasmids will be used to create genetically modified human cell lines; and 5) production of recombinant viruses. It was noted that this is a new PI arriving in August. Members discussed that bacculovirus is BSL-1.

- Change "protein in pET vectors" to DNA in pET vectors.
- Change "protein in a pLVX vector" to DNA in a pLVX vector.
- Section IV. 1. In lab K112 there is no cell culture, but in the adjacent lab Dr. Blower needs all the trainings and ROHP clearance.
- Clarify if there are other personnel that should be listed. If so, provide the requested information including training information.
- VIII.B. Check the box with name of PI and lab number.
- VIII. 10 Clarify if in room or adjacent cold room.
- In one place in the application it is stated that the lentivirus is third generation, in another place it is second generation, clarify and reconcile.

Site Assessment: The PI needs to complete training; personnel need to be added; and need to certify BSC's.					
Motion: Conditional Approval (Primary and Secondary Reviewer Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

12. Bhz – New Protocol

BUA	(PI)	Title	BSL	ABSL	Campus
2434		A Randomized Controlled Trial of Quetiapine for the Treatment of Youth with Co-Occurring Substance Use Disorders and Severe Mood Dysregulation	2	N/A	BUMC

Primary Reviewer: Xin Brown | Secondary Reviewer: Valeda Britton

Applicable NIH Guidelines: N/A

Meeting comments: The objective of the project is to investigate whether quetiapine (in addition to usual treatment) can improve both substance use disorder (SUD) and mood symptoms in youth. This study will collect urine samples and 4cc blood samples from subjects in the Doctor's Office Building. Toxicology and pregnancy tests will be performed on the urine samples. Blood samples will be transported to the Preston lab to be stored and later tested for quetiapine levels.

- Given the use of syringes it should be indicated that 'yes' sharps will be used.
- Liquid waste: "Urine samples will be disposed in the toilet and blood samples will be disposed of directly into the municipal sewerage system." Blood samples should be disinfected with 10% bleach, not disposed of directly into the drain.
- Urine collection tubes and tubes containing blood samples are solid waste, they should be disposed of in biohazard boxes as stated under liquid waste disposal and solid waste generation should be indicated.
- Indicate that the lab has a spill kit for appropriate spill clean-up.
- "The 4 cc sample of blood that will be stored will be transported from the Preston Lab to DOB in a leak proof, shatter proof container." Earlier in the application is indicated that "the blood sample will be transported from DOB to the Preston Lab", clarify and reconcile.
- Given the use of blood, the highest biosafety level should be indicated as BSL-2; ensure this is consistent throughout.

Site Assessment: This is a BSL-2 protocol given the use of blood; urine will be discarded in the toilet and tubes of blood will be disposed of in a biohazard bad after being spun down; and the lab has a spill kit.

Motion: Conditional Approval (Administrative Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

13. Bhz – New Protocol

BUA	(PI)	Title	BSL	ABSL	Campus
2467		Hormonal Modulation of Disseminating Endodontic Infections (DEI)	2	2	BUMC

Primary Reviewer: Carmela Abraham | Secondary Reviewer: Rao Varada

Applicable NIH Guidelines: N/A

Meeting comments: Females are more resistant to bacterial infections than males, including disseminating (spreading) infections within teeth. This research will determine if estrogen can protect otherwise susceptible male mice and aged female mice ('post- menopausal) from these disseminating infections. Mice that have mild immunosuppression due to the lack of a functional receptor for interleukin-1 (IL-1R1-/-) are inoculated into the pulp tissues with a mixture of four (4) bacteria commonly found in infected human root canals (Prevotella intermedia, Peptostreptococcus micros, Streptococcus intermedia, and Fusobacterium nucleatum, all purchased from ATCC). Mice are then treated with estrogen and/or enzalutamice (testosterone blocker) and monitored for the development of non-localized (disseminating) infections as indicated by facial swelling due to abscess formation, as well as signs of sepsis (i.e. weight loss) over a 21-day period. It was noted that the four (4) bacterial cultures being used will be decontaminated by autoclave. Members discussed if using bleach (to a final concentration of 10 %) would be

preferable. It was noted that the use of bleach would be easier, but that autoclaving will suffice. It was noted that the referenced IACUC protocol is under review and has yet to be approved. It was reported that the four (4) bacteria that will be used are new to BU and the need for LAI subcommittee review was mentioned. ROHP's Medical Director indicated that the bacteria are not high risk and can be treated easily with penicillin.

- Personnel information: The PI appears twice; this should be corrected.
- Ensure that the use of a biosafety cabinet is consistent throughout.
- Describe how biohazardous materials are transported. Transport of bacteria should be done in a leak proof secondary container.
- Identify all four (4) of the bacterial strains that will be used.
- Provide additional details on how mice are kept anesthetized during the dental procedure.
- Provide additional details on what occurs after the animal's dental pulp has been exposed to the cocktail of human bacteria and monitored over the 21-day period. Clarify if a necropsy will take place and if jaw samples are collected.
- VIII-4: PPE for ABSL-2 animal housing space require - dedicated lab coat, double gloves, shoe covers, surgical mask, and headcover.
- VIII-8: Recommend using a specific disinfectant for a designated time instead of using 70% ethanol and flaming.

Site Assessment: The PI will certify BSC's.

Motion: Conditional Approval (Administrative Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

14. rDNA/Bhz – Amendment

BUA	(PI)	Title	BSL	ABSL	Campus
1171		An In Vitro Model of Cell-Associated HIV-1 Transmission	2+	N/A	BUMC

Primary Reviewer: Elke Muhlberger	Secondary Reviewer: Bob Timmerman

Applicable NIH Guidelines: Sections III-D-1-a; Appendix B-II-D, G-II-B

Meeting comments: The PI is adding pilot studies to determine if a EpiAirway lung tissue model is infectable with SARS-CoV-2. Members discussed that there is no need for the PI or personnel to complete BSL-3 training since this work will not be done at BSL-3 and this training is not required for work being done at BSL-2 with enhanced practices.

- VII: Research Project Description: For work being done by Dr. Davey and Dr. Sagar please clarify that this work is covered by another IBC protocol (and provide the IBC protocol number) or to avoid any misunderstanding/confusion, do not mention this work in this protocol.
- Section H. Recombinant DNA: Pseudotyped virus should be added to recombinant DNA section.
- Add EpiAirway lung culture system to the Biological Hazardous Material list.

Motion: Conditional Approval (Administrative Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

15. rDNA/Bhz – Amendment

BUA	(PI)	Title	BSL	ABSL	Campus
2145		rDNA Protocols for Molecular Cloning in Pediatric Infectious Diseases; COVID-19 studies	2+	N/A	BUMC

Primary Reviewer: Tom Winters	Secondary Reviewer: Ron Morales

Applicable NIH Guidelines: Sections III-D-1-a, III-D-2-a, Appendix B-II-A.

Meeting comments: This amendment is to a Pfizer C4591001 phase ½ randomized, placebo controlled, observer blinded, dose finding vaccine study in healthy adults. There are now only two (2) (not four (4)) vaccine candidates and these vaccines will be provided in Shapiro 9. GCRU nurses will remain as unblinded vaccine administrators and obtain biospecimens (blood, NP swabs), and pregnancy test when appropriate. These specimens will be shipped from the GCRU to the M. Finland laboratory (670 Albany St.) for storage and shipment. Work will be conducted in a BSL-2 lab with BSL-3 practices. The risk to pharmacists and nurses are consistent with the currently approved protocol. GCRU

staff and M. Finland laboratory staff have been appropriately trained in safety. Shipping instructions are in the lab study manual. Waste is handled appropriately. Disinfectants used are 10% bleach and 70% isopropyl alcohol. • Confirm that the certification of the BSC listed is current.

Motion: Approve	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

16. rDNA/Bhz – Amendment

BUA	(PI)	Title	BSL	ABSL	Campus
734		Neurogenetic Processes in the Fetal Neocortex	2	2	BUMC

Primary Reviewer: Inna Afasizheva	Secondary Reviewer: Rao Varada
Applicable NIH Guidelines: Section III-D-1-a, III-D-2-a, III-D-4-a, III-E-1	
Meeting comments: The PI is being changed to E. Zeldich. It was noted that there is no animal work being done in this protocol but that the PI has an IACUC approved protocol to support animal work in a down syndrome model. The Chair questioned if the Chemical Safety Subcommittee is aware of the use of Bromo-deoxyuridine; it was noted that if this chemical is not on the High Hazard Chemical (HHC) list then the IBC does not need to discuss its use (the use of HHCs is governed by Laboratory Safety Committee approved SOPs) and that this chemical is barely a carcinogen. • Remove duplication of S. Shelton. • The PI is working with cell lines obtained from human brain (BSL-2). Cells will be collected for "molecular analyses". Explain RNA isolation from human cells, including detailed procedures, and include a sentence that all aerosol producing procedures will be performed in a BSC. • Include rationale for animal use and the IACUC protocol number. • Update the BSC certification date. • Add room number for cell line culturing. • Synthetically derived nucleic acid molecules are listed on page 18, provide required information on page 26-27.	

Motion: Conditional Approval (Primary Reviewer Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

17. rDNA/Bhz – Amendment

BUA	(PI)	Title	BSL	ABSL	Campus
1702		iPS Cells: Novel Applications for Blood Bourne Disease	2	2	BUMC

Primary Reviewer: Barbara Slack	Secondary Reviewer: Susanna Kurnick
Applicable NIH Guidelines: Section III-D-2, Appendix B-II-D, G-II-B; BSL-2	
Meeting comments: The PI has revised the section on AAV virus packaging and use. • Section VIII.5: Provide the current BSC certification date. • Sharps containers should not be autoclaved before placing in a double red bag-lined biohazard box, the container will melt, please remove. • Provide the current IACUC protocol information	

Motion: Conditional Approval (Administrative Review)	For: 12	Recuse: 0	Against: 0	Abstain: 0	Absent: 0

18. Bhz – Amendment

BUA	(PI)	Title	BSL	ABSL	Campus
698		Analysis of human tumor xenograft models and frozen blood samples from stroke patients	2+	2	BUMC

Primary Reviewer: Ron Morales Additional Reviewer: Inna Afasizheva	Secondary Reviewer: Tom Winters
Applicable NIH Guidelines: N/A	

Meeting comments: The PI has submitted an amendment to handle blood samples from patients who have tested positive for COVID-19 at BSL-2. The contention made by the PI is that this biosafety level is appropriate based on a general statement from the FDA and AABB that "there has been no reported cases of transfusion-transmitted coronavirus". Members discussed that there is also available information that the virus can be detected in blood as well as replicates in blood cells (and alter the blood environment), and that much about this virus is still unknown. Recent evidence that a fetus can get COVID-19 from the mother was also mentioned, suggesting that it may be transmitted through blood. It was noted that the proposed amendment indicates that lab manipulation of blood samples will include tissue grinding, vortexing/centrifugation, pipetting, and animal inoculations and that because pipetting and centrifugation are higher risk manipulations that could result in aerosolization, the American Biological Safety Association (ABSA) recommends that the biosafety level should be BSL-2 plus select BSL-3 practices. Members discussed that the proposed work should be done at BSL-2 with practices of BSL-3 given the risks and that the absence of virus in blood has not been established. • The absence of virus in blood has not been established. Given the risks, the proposed work must be done at BSL-2 with practices of BSL-3. Consult EHS for guidance on appropriate practices and incorporate these practices into the protocol.					
Motion: Conditional Approval (Reviewers to Review)	For: 11	Recuse: 0	Against: 0	Abstain: 0	Absent: 1