CHAPMAN UNIVERSITY | Environmental Health and Safety

Institutional Biosafety Committee
Meeting Minutes
Monday, December 8, 2025
Time: 12:00
Teams and RK-94 130

Quorum = 6

Present	**Department/IBC Affiliation**
Rosalee Hellberg, Ph.D., **Chair**	Program Director, Food Science Associate Professor, Food Science, Schmid College of Science and Technology
Chuck Sohaskey, Ph.D.	EHS / Biosafety Officer
Marco Bisoffi, Ph.D.	Associate Professor of Biochemistry and Molecular Biology, College of Science and Technology
Karen Swift, B.S.	Manager, EHS, Chemical Hygiene Officer
Jason Yamaki, Pharm.D., Ph.D.	Associate Professor, School of Pharmacy
Bill Peacher MS CLS	Community 2
Bruce Webster, Ph.D.	Community 1
Hagop Atamian, Ph.D.	Associate Professor of Biology, Schmid College of Science and Technology
Trinka Adamson	IACUC veterinarian
Kimberly Muth	Vivarium manager
Gio Bravo	Vivarium supervisor
Excused	
Miao Zhang, Ph.D.	Assistant Professor, School of Pharmacy
Ashley Whelpley	Assistant Director of Lab Operations, Schmid College of Science and Technology

Jason was not present at the start of the meeting and joined after the discussion of the first initial project review (#2025-12-1). He did not vote on this project.

I. MEMBERSHIP ISSUES

Miao Zhang will be leaving Chapman at the end of the year. The committee will reach out to see if Cecilia Lopez will join.

II. REVIEW OF MINUTES of September 8, 2025

Approved unanimously.

III. IBC CHAIRPERSON REPORT

No report

IV. BIOSAFETY OFFICER REPORT

2021-12-2. Yamaki, Jason. Activity of novel antimicrobial cyclic peptides against *Staphylococcus aureus* (MRSA), *Klebsiella pneumoniae*, *Pseudomonas aeruginosa,* and *Escherichia coli*. CLOSED

2020-9-5 Owens, Cedric. Constructing a better nitrogenase by uncovering protein-protein interactions that protect the enzyme and expand its chemistry. CLOSED

2023-9-1 Zhang, Miao. Regulation of SK channels, polycystin channels, taste receptors, and Ca2+ pump. CLOSED

The Rinker research labs were inspected in December and while there were minor issues there were no big problems.

No incidents involving biosafety were reported since last meeting.

The names of lab personnel who will need to offered the hepatitis vaccine are still being collected. No notices have been sent out yet.

V. INITIAL PROJECT REVIEWS

2025-12-1. Rha, Allisandra. Genome editing as a therapeutic candidate for GM1 gangliosidosis

- Rha (BUA) Genome editing as a therapeutic candidate for GM1 gangliosidosis
- *Rha AAV Exposure control plan*

Cell culture models will be used to investigate whether genome editing of the *GLB1* gene could be an effective therapeutic candidate for gangliosidosis patients. Primary . . fibroblasts were previously reprogrammed into iPSCs, and will be differentiated into neural lineage cells which will be grown into 3D organoid structures which mimic aspects of the human brain. The *GLB1* gene will be edited with a Cas nuclease and sgRNA, then adeno-associated virus (AAV) will be used to edit the gene in human cells. The AAV are non-replicating and RG1, but viral work will be done at BSL-2 levels. The human cells are RG2. The NIH classification is III-D and requires IBC approval before initiation. Due to the use of human cell lines, the hepatitis B vaccine will be offered to personnel. There are no biosecurity risks. The Exposure control plan is good and covers containment, PPE, spill response, disposal and accidental exposure. All training has been completed. After discussion the project was approved unanimously with the following stipulations:

1. Question 36 – This question refers to shipping from Chapman and should probably be no.
2. Question 39 and the Exposure control plan – the autoclave should not be used for disposal.

Jason joined the meeting at this point so did not vote on the previous protocol.

VI. CONTINUING PROJECT REVIEWS

2024-12-1. Yang, Sun. Impact of vitamin D on gut microbiome and metabolome among pediatric oncology patients

- *Yang (BUA) Impact of vitamin D on gut microbiome and metabolome among pediatric oncology patients*

Immaturity of the gut microbiome contributes to the development of childhood acute lymphoblastic leukemia (ALL), and compared to healthy children, the gut microbiome diversity is much lower in patients with ALL. Preliminary studies showed that approximately 42% of previously healthy children exhibited notable vitamin D deficiency upon diagnosis with ALL. Vitamin D supplementation significantly increased the gut microbial diversity and abundance of certain probiotic taxa. They plan to analyze vitamin D metabolites in human fecal samples with Q-TOF or mass spectrometry. No rDNA and no work with pathogens. The main issue is fecal samples which make this project RG-2. No hepatitis vaccine is suggested and no biosecurity risks. All training has been completed. The committee voted to approve this project unanimously.

2024-12-2 Elshahawi, Sherif. Targeting *Clostridium difficile* Infections Using Enzymatically-Modified Daptomycin Derivatives

- *Elshahawi (BUA) Targeting Clostridium difficile Infections Using Enzymatically-Modified Daptomycin Derivatives*
- *Elshahawi Exposure Control Plan 2024*

The goal is to produce compounds that possess antimicrobial activities against *C. difficile*. A commercially available gene for prenyltransferases from *Aspergillus fumigatus* will be expressed in *E. coli.* The enzyme will be purified and used to modify daptomycin *in vitro*. The activity of these modified compounds will be tested against various strains of *C. difficile*. Because the source of the gene is an RG-2 microbe, this is classified as III-D and requires IBC approval before initiation. No hepatitis vaccine is required and only basic biosecurity risks. All training has been completed. The exposure control plan covers all major issues. *Clostridium difficile* does not pose a significant agricultural risk so biosecurity considerations are mostly limited to accidental exposure and community spread. These are addressed by the use of BSL-2 procedures. All training has been completed. The The committed unanimously approved this project with these stipulations:

1. Page 1 – The BUA number is wrong and should be 2024-12-2.
2. Table 11 – R20291 is metronidazole resistant and vancomycin sensitive.

2023-3-2 Lopez, Cecilia. Investigating the effects of protein modifications in mammalian cells.

- *Lopez (BUA) - Investigating the effects of protein modifications in mammalian cells.*

This project investigates the role of PGC-1α and methyltransferase in three human cell lines. PGC-1α (Peroxisome proliferator-activated receptor gamma coactivator 1-alpha) is a transcriptional coactivator that plays a critical role in regulating cellular energy metabolism and stimulating mitochondrial biogenesis. Experimental techniques include RT-PCR, RNAi assays in human cells, the transient expression of genes in human cells and protein expression in *E. coli.* The human cells are RG-2, and the NIH classification is III-F so this is a risk group 2 project. Due to the use of human cell lines, the hepatitis B vaccine will be offered to personnel. There are no biosecurity risks. Some personnel have not completed assigned safety training. The committed unanimously approved this project with these stipulations:

1. Page 1 – the title had a typo

2. Question 36 – This question refers to shipping from Chapman and should probably be no.
3. Question 61 – Does this project involve the use of radioisotopes?
4. Question 63 – Will UV light be used for DNA detection?
5. All personnel complete assigned safety training

2023-12-2 Montazeri, Hamid. RNA interference against Respiratory Syncytial Virus (RSV)

- RNA interference against Respiratory Syncytial Virus (RSV)
- Montazeri Pathogen Exposure Control Plan (2023)

The goal of this project is to test the antiviral activity and toxicity of nucleic acids against Respiratory Syncytial Virus (RSV) using an anti-RSV cytoprotection assay. Live infectious virus will be used. Human lung epithelial cells A549 will be grown and infected with RSV A2 strain. Infected cells will be harvested and freeze-thawed 3X at -80ºC then clarified to produce viral stocks. This stock will be used to infect A549 cells with and without siRNA encapsulated by lipids and polymers (nanoparticles) which reduce the infectivity of the virus. The cell viability will be determined. Plates will be removed from the virus lab to use the plate reader but treatment with SDS and acid will be used to inactivate the virus first. This project involves rDNA work with live human virus and is classified as III-D so IBC approval is required before the work can begin. and the hepatitis vaccine will be offered. The virus and human cells make it RG-2. RSV does not pose a significant agricultural risk, so biosecurity considerations are mostly limited to accidental exposure and community spread. These are addressed by the use of BSL-2 procedures.

2024-12-3 Ostrom, Rennolds. cAMP signaling compartmentation

- *Ostrom (BUA) cAMP signaling compartmentation*
- *Ostrom Exposure Control Plan and Gene List*

The goal is to understand how cells organize different signals into compartments that can produce different cellular responses even when a similar biochemical signal, cAMP, is used. The focus will be on adenylyl cyclase, phosphodiesterase, and A kinase anchoring proteins (AKAP). But they also have various fluorescent cAMP biosensor genes which will allow for monitoring of cAMP levels. Genes will be mutated to create tagged proteins which will be expressed in human and animal cells. Both plasmids and replication deficient adenoviruses, mammalianized baculovirus and lentiviruses will be used. Sometimes the genes are integrated to create stable cell lines. The list of target genes is included, and there are no oncogenes. The NIH classification is III-D which requires IBC approval before initiation, and it is RG-2. Due to the use of human cell lines, the hepatitis B vaccine will be offered to personnel. There are no biosecurity risks. All training has been completed. The committee unanimously approved it with the clarification of question 36 about transport.

2022-12-1 Sumbria, Rachita. Brain endothelial cells and red blood cell interactions and Alzheimer's disease pathology

- *Sumbria (BUA) - Brain endothelial cells and red blood cell interactions and Alzheimer's disease pathology`*
- *Exposure Control Plan AAV Sumbria*

The first objective is to determine the interactions between the brain endothelial cells (BEC) that line the brain blood vessels and red blood cells (RBC). They have shown

stressed/injured RBC attach and are engulfed by these BEC which may be a new mechanism that it will now be replicated in human cells. They plan to differentiate BEC from human induced Pluripotent Stem Cell (iPSC). The interaction of RBC with BEC in human brain tissue will be analyzed. Another objective is they will be breeding 3 strains of transgenic mice that serve as a model for human Alzheimer disease and will silence the low-density lipoprotein receptor-related protein 1 with adeno-associated virus vector in these mice. The AAV are non-replicating and RG1, but viral work will be done at BSL-2 levels. The human cells are also RG1 The NIH classification is III-D and requires IBC approval before initiation. All training has been completed. Due to the use of human cell lines, the hepatitis B vaccine will be offered to personnel. There are no biosecurity risks. The committee unanimously voted to approve this project.

VII. OTHER BUSINESS

There was no other business.

VIII. NEXT MEETING

Next meeting is scheduled for March 9, 2026, at the Orange campus.