INSTITUTIONAL BIOSAFETY COMMITTEE
MEETING MINUTES

DATE: June 17, 2026
TIME: 3:00 PM
LOCATION: Virtual Meeting via Microsoft Teams

The meeting for the University of South Carolina's Institutional Biosafety Committee (IBC) was called to order by the Chair, Dr. Doug Pittman, at 3:02 pm.

Approved IBC minutes will be posted on the university's IBC website. This website includes meeting dates, times, locations, and guidance for the public to request to attend an IBC meeting.

MEETING ATTENDANCE

IBC Member	Member Role / Position / Department	Attendance
Doug Pittman	IBC Chair; Director, Graduate Studies in Drug Discovery & Biomedical Sciences	☑
Sherika Smith	Biological Safety Officer in Environmental Health & Safety	☑
Shayne Barlow	Animal Expert; Associate Vice President for Research & Director, DLAR	☑
Beth Krizek	Plant Expert; Professor in Biological Sciences	☑
Sujit Pujhari	Viral Vector Core Director in Pharmacology, Physiology & Neuroscience	ABSENT
Jason Kubinak	Associate Professor in Pathology, Microbiology, and Immunology	☑
Michael Shtutman	Associate Professor in Drug Discovery & Biomedical Sciences	☑
Daping Fan	Professor in Cell Biology and Anatomy	☑
Sean Norman	Director, Molecular Microbial Ecology Lab in Environmental Health Sciences	☑
Anna Blenda	Clinical Professor in Biomedical Sciences at USC SOM Greenville	☑
William Jackson	Professor/Chair in Biological, Environmental & Earth Sciences at USC Aiken	☑
Anita Nag	Associate Professor of Biochemistry at USC Upstate	☑
Emily Webb	Assistant Professor of Genetics & Molecular Biology at USC Beaufort	☑
Amanda Moore	Community member; Special Pathogens at SC Department of Public Health	☑
Ryan McCormick	Community member; Infectious Diseases Clinical Pharmacist at Prisma Health	☑
Kris Kaigler	Research Specialist (technical staff) in Pharmacology, Physiology & Neuroscience	ABSENT

* Mark Robbins (Research Safety Bureau Chief & Non-Voting IBC Contact Person)
Loren Brown attended as a guest and student intern from Tuskegee School of Veterinary Medicine.

I. APPROVAL OF PREVIOUS MEETING MINUTES

IBC minutes from the meeting on April 15, 2026, were approved by committee vote.

- Votes: For = 14 / Against = 0 / Abstain = 0

II. ANNOUNCEMENTS

A. IBC CHAIR

i. The IBC Chair reminded all members present to identify any conflicts of interest as each registration is reviewed.

B. RESEARCH SAFETY BUREAU CHIEF

i. The new College Research Safety Coordinator will start on August 17, 2026. This position will support research laboratories in the McCausland College of Arts & Sciences and Molinaroli College of Engineering & Computing.

III. OLD BUSINESS

No old business was discussed.

IV. PROTOCOL REVIEWS

Protocol #	1-0162-0626
Protocol Type	Renewal
PI Name	Nathan Hancock
Project Title	Plant transposon biochemistry, gene discovery, and genome editing
Section of NIH Guidelines	Section III-D-5, Section III-E-2, Section III-F-8
Characteristics of Agent(s) or Material(s)	*E.coli* (NEB® 5-alpha) is used for subcloning of plasmids. *Agrobacterium* strains are used for plant transformation. A disarmed *Agrobacterium tumefaciens* strain will be used for plant transformation and transient expression assays. A hypervirulent *Agrobacterium tumefaciens* strain will be used for efficient transformation of a wide range of plant species. *Agrobacterium rhizogenes* will be used to induce hairy root formation for root biology studies, promoter analysis, and testing of gene constructs in plants such as soybean.

	Lab will express plant transposase proteins in yeast to measure the mobility of transposons. pAG vectors include selectable markers and gateway cloning sites. A ADE2 gene will be used as a reporter for excision of the transposable element. There are no known significant risks from these experiments. Lab will express various proteins in Arabidopsis, Soybean, Camelina, and Nicotiana plants. Lab will use binary vectors for agrobacterium mediated transformation These constructs and resulting plants have negligible risk to humans and the environment. Lab grows gene edited Arabidopsis, camelina, and soybean plants. In some cases, the gene editing constructs (CAS9 and guide RNA) are still present in the genome. These edits are small deletions that result in nonfunctional ORFs. The plants are safe for humans and environment.
Manipulations/Procedures & Risk Assessment	Bacteria and yeast will be transformed using standard methods. Unneeded samples will be destroyed by autoclaving (solids or liquids) or mixing with bleach (liquids only). Lab will produce transgenic Arabidopsis and agroinfiltration will be used to transiently transform tobacco leaves. The plants will primarily be grown in a greenhouse and growth chambers. The lab's research greenhouse and growth chambers are screened to prevent insects from entering or leaving. Transgenic plant material and soil from pots are autoclaved before disposal. Some soybean experiments will be performed in a field. These experiments will require APHIS notification applications that include a description of the lines that will be grown in the field and the associated protocols. Soybean is self-pollinating and has a 5 ft isolation distance. Deer are kept out by a fence around one field and by the road, lights, and building for the other. Residual plant material is incorporated into the soil and the site is monitored by volunteers monthly. Seeds are stored in locked cabinets in the lab. Unwanted seeds are autoclaved before disposal. The PI has been working with APHIS for 15 years to ensure environmental releases are performed properly. Since soybeans are a self-pollinating species, it is easy to prevent unwanted escape into the environment. The transgenic yeast and plants pose negligible risk to human health. In both cases, they will not be used for human food. CRISPR editing of plant genomes is accomplished by transformation with plasmids that carry the Cas9 gene and the gRNA expression construct. The resulting plants are screened for edited DNA, and the transgene is segregated out. No direct risks from the transgenes.
Source(s) and Nature of Nucleic Acid Sequences **Transgene Expression & Function of Protein**	The sources of nucleic acid sequences include *Daucus carota, Glycine max, Oryza sativa, Zea mays, Streptococcus pyogenes, Beta vulgaris, Aequorea victoria, Zoanthus,* Cauliflower mosaic virus*, Pinus radiata,* Figwart mosaic virus*, Agrobacterium tumefaciens, Arabidopsis thaliana, Solanum tuberosum, Corynebacterium, Escherichia coli,* and *Streptomyces hygroscopicus*. The nature and function of nucleic acids include transposable elements, chloroplast function, visual reporters, cleavage of DNA, drivers of

	constitutive expression, selective markers, antibiotic resistance, and terminators of transcription.
Host(s) & Vector(s) Used	Hosts used: *Escherichia coli* is used for cloning and preparing DNA. *Agrobacterium tumefaciens* is used for plant transformation. *Saccharomyces cerevisiae* is used to perform transposition assays. *Arabidopsis thaliana* is used for transposition assays and expression of proteins. *Nicotiana benthamiana* is used for expression of transgenic proteins. *Camelina sativa* is used for expression of transgenic proteins. *Glycine max* (soybean) is used for expression of transgenic proteins. Vectors used: pUC19, pGEM T-easy, pEARLEYGATE, pCAMBIA, pBIN, pDONR ZEO, pAG
Viral Vectors	None
Biosafety Level(s)	BL1
Work Practices	Verified proper work practices for experiments conducted at BL1.
Laboratory Facilities	Verified proper lab facilities for experiments conducted at BL1.
Training and Expertise of Research Personnel	PI provided CV/biosketch for IBC to verify PI's training and expertise. PI completed training on *NIH Guidelines* for Principal Investigators. PI indicated plans to make biosafety protocols available to lab staff and train lab staff in safe work practices and procedures for incidents.
Major Discussion Points	PI specified the strains of *E. coli* and yeast used for experiments. PI added procedures for disposal of solid and liquid waste. PI added a description of procedures involving CRISPR-Cas9. PI added working with APHIS for 15 years to ensure proper environmental releases. In previous years, the PI used apple latent spherical virus and plant pathogens for this project. Since virus and plant pathogens are no longer included, containment level was lowered from BL2-P to BL1-P.
Motion to Approve	A motion was made to approve this protocol as is

Votes For:	Votes Against:	Abstained:	Conflict of Interest:
14	0	0	None

Protocol #	1-0163-0626

Protocol Type	Renewal
PI Name	Scott Tanner
Project Title	Use of RNA interference in *C. elegans* (teaching exercise)
Section of NIH Guidelines	Section III-D-4, Section III-F-1 & III-F-8
Characteristics of Agent(s) or Material(s)	The recombinant nucleic acid used is the L4440 plasmid that has the *C. elegans dpy13* gene cloned into the multiple cloning site. The plasmid uses an *E. coli* K-12-derived strain as a host, which also serves as the food source for *C. elegans*. The *E. coli* K-12 strain is non-pathogenic and classified as Risk Group 1. The production of the dpy13 gene within the *E. coli* has no known effect on the *E. coli*.
Manipulations/Procedures & Risk Assessment	The L4440 plasmid will be grown and maintained in the *E. coli* host. The *E. coli* will be grown in liquid LB media in flasks. 200ul of the media/bacteria will then be added to nematode growth media (NGM) petri dishes. Transfer of the media/bacteria to the dishes will involve pipetting, which has the potential to generate splashes or aerosols. All waste (NGM plates and remaining bacteria/media) will be autoclaved prior to disposal. Specimens will be transported between rooms in closed secondary leak-proof containers. Potential risks/hazards are limited to those commonly associated with BL1-level microbiological work. The bacterial strain is non-pathogenic, but exposure could occur through droplets via pipetting and transfer of *C. elegans* between plates. Appropriate PPE (lab coat and gloves) will be used to minimize this risk.
Source(s) and Nature of Nucleic Acid Sequences **Transgene Expression & Function of Protein**	The source of nucleic acid sequences is *C. elegans*. The nucleic acid contributes to structural components and functions in *C. elegans*.
Host(s) & Vector(s) Used	Host: *E. coli* (K-12 strain) Vector: L4440 plasmid
Viral Vectors	None
Biosafety Level(s)	BL1 (*E. coli*, plasmids)
Work Practices	Verified proper work practices for experiments conducted at BL1.
Laboratory Facilities	Verified proper lab facilities for experiments conducted at BL1.
Training and Expertise of Research Personnel	PI provided CV/biosketch for IBC to verify PI's training and expertise. PI completed training on *NIH Guidelines* for Principal Investigators. PI indicated plans to make biosafety protocols available to lab staff and train lab staff in safe work practices and procedures for incidents.

Major Discussion Points	PI selected Section III-D-4 since *C. elegans* are considered animals. PI verified that Section III-F-1 should be selected as well.			
Motion to Approve	A motion was made to approve this protocol as is			
	Votes For: 14	Votes Against: 0	Abstained: 0	Conflict of Interest: None

Protocol #	1-0164-0626
Protocol Type	Renewal
PI Name	Scott Tanner
Project Title	Monitoring ingestion and intestinal development in *C. elegans* using GFP
Section of NIH Guidelines	Section III-D-4, Section III-E, Section III-F-3
Characteristics of Agent(s) or Material(s)	Transgenic *C. elegans* containing Green Fluorescent Protein (GFP) or GFP labeled *E. coli* will be used to monitor intestinal development or feeding and intestinal function in *C. elegans*, respectively. For the transgenic *C. elegans*, two *C. elegans*/GFP strains will be utilized: ERT60 and TX895. The GFP gene from *Aequorea victoria* has been integrated into the *C. elegans* genome in both strains. The OP50 *E. coli* strain is the standard laboratory food source for C. elegans. OP50 is a non-pathogenic B strain of *E. coli* (RG1). The GFP gene from *Aequorea victoria* has been integrated in the OP50 genome.
Manipulations/Procedures & Risk Assessment	The ERT60 and TX895 GFP-containing *C. elegans* will be grown on standard nematode growth medium (NGM) plates with the standard OP50 *E. coli* food source. Transfer of *C. elegans* to new plates will be performed using wire picks sterilized in Bunsen burner flames. 200ul GFP-OP50 liquid will be placed on plates and allowed to dry. *C. elegans* will be added to the plates and allowed to feed for various time points. GFP-OP50 *E. coli* cultures are produced in small volumes. Glass slides and cover glasses will be used for imaging. No other sharps will be used. All materials will be autoclaved prior to disposal. Potential risks/hazards are limited to those commonly associated with BL1-level microbiological work. The bacterial strain is non-pathogenic, but exposure could occur through droplets via pipetting and transfer of *C. elegans* between plates. Appropriate PPE (lab coats, eye goggles, gloves) will be used to minimize this risk.
Source(s) and Nature of Nucleic Acid Sequences	The source of nucleic acid sequences is *Aequorea victoria*.

Transgene Expression & Function of Protein	The green fluorescent protein (GFP) gene and its encoded protein function as fluorescent reporter markers.			
Host(s) & Vector(s) Used	Transgenic *C. elegans* (ERT60 and TX895 strains) GFP-OP50 *E. coli* strain			
Viral Vectors	None			
Biosafety Level(s)	BL1 (*E. coli,* transgenic *C. elegans*)			
Work Practices	Verified proper work practices for experiments conducted at BL1.			
Laboratory Facilities	Verified proper lab facilities for experiments conducted at BL1.			
Training and Expertise of Research Personnel	PI provided CV/biosketch for IBC to verify PI's training and expertise. PI completed training on *NIH Guidelines* for Principal Investigators. PI indicated plans to make biosafety protocols available to lab staff and train lab staff in safe work practices and procedures for incidents.			
Major Discussion Points	PI added eye protection as PPE worn handling liquid bacterial cultures. PI selected "Yes" to transgenic animals for use of transgenic *C. elegans*			
Motion to Approve	A motion was made to approve this protocol as is			
	Votes For: 14	Votes Against: 0	Abstained: 0	Conflict of Interest: None

Protocol #	1-0165-0626
Protocol Type	Renewal
PI Name	Mengqian (Max) Chen, Michael Shtutman, Hippokratis Kiaris
Project Title	Identification of New Targets for Treatment of Cancer, Neuro-AIDS, or Substance Addiction
Section of NIH Guidelines	Section III-D-1, III-D-2, & III-D-3; Section III-E-1; Section III-F-1, III-F-2, III-F-6, & III-F-8
Characteristics of Agent(s) or Material(s)	HIV-based lentiviral vectors, MoLV-based retroviral vectors, adeno-associated viral vectors, eukaryotic plasmid expression vectors, and *E. coli* expression vectors will be used to clone human DNA fragments. DNA fragments will be inserted into vectors above to create libraries or individual clones expressing or containing the DNA fragments. Non-pathogenic *E.coli* K-12 derivatives will be handled at BL1.

	The lentiviral vectors will be handled at BL2. Exposure to an oncogenic clone could potentially increase the likelihood of cancer. The approximate virus titer would be in the range of 10^5 to 10^8 The MoLV vectors have a pantropic (VSV-G based) envelope. Pantropic retroviruses can penetrate human cells but cannot integrate into the genomic DNA of non-dividing cells so BL2 containment will be used. The approximate virus titer would be in the range of 10^5 to 10^8 Three plasmids, virus-free AAV packaging system will be used: AAV vector (transfer plasmid), helper plasmid (pAdeltaF6) and Rep/Cap plasmids. AAVs infect a variety of cell types depending on the serotype. Recombinant AAV (rAAV) used in the experiments has the Rep protein supplied in trans, eliminating the ability of rAAV to integrate into its preferred site of genomic integration on human chromosome 19, termed AAVS1. The approximate virus titer would be in the range 10^8 to 10^{10}Various human (primary and established), mouse (primary and established), and rat (primary) cells will be used. Rodent breeding and preparation of cultures will be done according to approved animal protocols. Transgenic mice will not be administered with tumor or immortalized human cells or any DNA constructs. Animals will be used for breeding and phenotypic analysis only.
Manipulations/Procedures & Risk Assessment	All cloning procedures and DNA propagation will be performed in *E.coli* K-12 strain derivatives at BL1. Constructed vectors or libraries with lentiviral or retroviral backbones (less than 2/3 of viral genomes) or vectors with AAV backbone will be introduced into culture cells by transfection or lentiviral/retroviral/AAV transduction procedures. Sharps will not be used in any experiments involving lentiviruses. All personnel working with lentiviral stocks will double-glove when conducting experiments. All procedures involving viral vectors will be conducted inside a biosafety cabinet or other physical containment device. Work surfaces will be decontaminated after the completion of work or after any spill using an appropriate disinfectant. The Principal Investigator will ensure that lab personnel demonstrate proficiency in experimental procedures before working with viral vectors. The viruses will be prepared by a standard protocol based on the transfection of 293FT with packaging plasmids. The 2nd generation (3-plasmid) system has a higher risk of recombination and, therefore, generation of the replication-competent virus than 3rd generation (4 plasmids) system. However, the probability of the generation of replication-proficient virus is extremely low. Lab will use screw-cap flasks to avoid spillover when performing transfections. Genetic modifications have the potential to generate non-replicating lentiviral vectors with oncogenic activity when co-transfected in mammalian cells with lentiviral packaging constructs. Virus that contains potentially oncogenic inserts will be prepared with the 3rd generation system.

<table>
<tr><td></td><td colspan="4">Use of sharps when handling lentiviral vectors is strictly prohibited.</td></tr>
<tr><td>Source(s) and Nature of Nucleic Acid Sequences
Transgene Expression & Function of Protein</td><td colspan="4">The source of nucleic acid sequences includes human, rat, mouse, Cnidaria (phylum), and Arthropoda (phylum).
The nature and function of nucleic acid sequences include DNA fragments that regulate expression of other genes, expression of protein coding RNAs, and fluorescent or bioluminescent reporter markers</td></tr>
<tr><td>Host(s) & Vector(s) Used</td><td colspan="4">Self inactivated, replicative deficient HIV-based lentiviral vectors, MoLV -based retroviral vectors, and three plasmids, virus-free AAV packaging systems will be used
E.coli K12 derivatives will be used</td></tr>
<tr><td>Viral Vectors</td><td colspan="4">Adeno-Associated Virus (AAV) from a supplier & packaged in PI’s lab
Retrovirus / MMLV (amphotropic)
Retrovirus / Lentivirus (2nd & 3rd generation) packaged in PI’s lab</td></tr>
<tr><td>Biosafety Level(s)</td><td colspan="4">BL1(E. coli)
BL2 (lentiviral vectors, MoLV vectors, AAV)</td></tr>
<tr><td>Work Practices</td><td colspan="4">Verified proper work practices for experiments conducted at BL1, BL2.</td></tr>
<tr><td>Laboratory Facilities</td><td colspan="4">Verified proper lab facilities for experiments conducted at BL1, BL2.</td></tr>
<tr><td>Training and Expertise of Research Personnel</td><td colspan="4">PI provided CV/biosketch for IBC to verify PI’s training and expertise.
PI completed training on NIH Guidelines for Principal Investigators.
PI indicated plans to make biosafety protocols available to lab staff and train lab staff in safe work practices and procedures for incidents.</td></tr>
<tr><td>IACUC Approval</td><td colspan="4"><table><tr><th>IACUC Approval Number</th><th>IACUC Approval Date</th></tr><tr><td>2792-102094-030426</td><td>03/04/2026</td></tr></table></td></tr>
<tr><td>Major Discussion Points</td><td colspan="4">BSO verified NIH Guidelines training and will verify completion of BSL-2 training for each PI
PI added animals will be used only for breeding and phenotypic analysis
PI added the titer of viral vectors used
PI provided justification for the use of a 2nd generation lentivirus
PI included rats as a species used and updated IACUC approval date</td></tr>
<tr><td>Motion to Approve</td><td colspan="4">A motion was made to approve this protocol as once the BSO verifies all principal investigators have completed BSL-2 training.</td></tr>
<tr><td></td><td>Votes For:
13</td><td>Votes Against:
0</td><td>Abstained:
1</td><td>Conflict of Interest:
Dr. Michael Shtutman abstained from voting on this project</td></tr>
</table>

Protocol #	1-0166-0626
Protocol Type	Renewal
PI Name	William Jackson
Project Title	Attenuation of HIV gene expression and replication using a gene therapy approach to target viral functions
Section of NIH Guidelines	Section III-D-1 & III-D-2; Section III-E-1; Section III-F-8
Characteristics of Agent(s) or Material(s)	p(LIR)-based plasmids (pLX(I)R and pLX(2I)R) contain three HIV regulatory elements and are inducible in the presence of HIV-1 regulatory proteins tat and rev. The plasmids have no 3' LTR or packaging signal. Instead, the expression cassette terminates using the bovine growth hormone (BGH) poly A sequence. The risk of using these plasmids is low and similar to that of pcDNA3-based plasmids. pNL43.Luc.R-.E- is a replication incompetent HIV-based reporter plasmid that is replication incompetent by two frameshift mutations. Additionally, the firefly luciferase gene is inserted into the nef open reading frame. Virus production using this plasmid requires the presence of helper plasmids which will not be used. Generation of replication competent virus is unlikely as it requires the in-frame loss of the luciferase gene and reversion of the two frameshift mutations. MC99IIIBΔTat-Rev is a replication incompetent HIV-1 virus containing five-point mutations in the Tat and Rev coding sequences and can only be used in CEM/TART cells which express and provide HIV-1 Tat and Rev in trans. The generation of replication competent virus using the CEM/TART-MC99IIIDTat-rev system requires the reversion of five-point mutations in the tat and rev coding sequences, therefore the risk in using this system is minimal. The pMuLE lentiviral vector contains a self-inactivating 3' LTR having a 133 bp deletion that removes the TATA box and binding sites for SP1 and NF-kappaB. During reverse transcription, this deletion is incorporated into the 5' LTR resulting in inactivation of the provirus LTR. Risks associated with the use of pMuLE lentiviral vectors are very low due to the modifications with a third-generation vector. No helper plasmids will be used for work involving pMuLE-based virions.
Manipulations/Procedures & Risk Assessment	Standard molecular biology techniques will be used to create a set of plasmids for apoptosis studies and will be carried out under BL1 conditions on the benchtop. Lab benches are decontaminated (70% ethanol) at the end of the experiment and all manipulations involving the use of larger volumes (100 mL) of *E. coli* are carried out using appropriate PPE (lab coat and gloves). Plasmid-mediated gene expression will be studied in human cells. Pro-apoptotic genes that show efficacy will be subcloned into plasmids and

	lentiviruses. All work with HIV genomic clones and pMuLE will be carried out only by the PI using BL2+ containment. All glass Pasteur pipets will be replaced with plastic and lab personnel will wear double gloves. Liquid biohazardous waste is collected using a vacuum aspirator The vacuum system is equipped with a 0.2 micron filter to prevent contamination of the pump. Fresh 10% bleach is used to disinfect the vacuum line. Consumables are discarded into biohazard bag and all bags are autoclaved before disposal. Routine cell work will take place in a Class II biosafety cabinet at BL2 containment. Exposure to droplets generated by pipetting and mixing will be minimized by completing these tasks in the biosafety cabinet. If centrifugation is needed, cells will be placed in conical tubes and spun at low speed in a swinging bucket rotor. If higher speeds are required, the tubes will be placed in a covered bucket prior to centrifugation. Fresh 10% bleach or 70% EtOH are used to decontaminate all surfaces. Because small volumes are used (microliters), the likelihood of exposure is minimal. However, parenteral exposure could result in localized gene expression. This risk is mitigated by proper training, the use of lab coats, and eliminating the use of sharps. The risks associated with cloning are mitigated by use of appropriate PPE (gloves, safety glasses/shields, and lab coats). All lab personnel are trained before conducting each technique. All cell culture work using human cell lines will be carried out under BL2 conditions. While parenteral exposure to plasmids expressing pro-apoptotic genes has the potential to induce apoptosis, the effect would be localized to the exposure area.
Source(s) and Nature of Nucleic Acid Sequences **Transgene Expression & Function of Protein**	The source of nucleic acid sequences includes murine, human, *Auquorea victoria* (jellyfish), *Photuris lucicrescens* (firefly), *Renilla reniformis* (sea pansy), HIV-1, and *Discosoma sp*. (cnidarian). The nature and function of nucleic acid sequences include expression of pro-apoptotic genes, fluorescent and bioluminescence reporter markers, and accessory genes that upregulate viral transcription or nuclear export of introns containing viral RNAs.
Host(s) & Vector(s) Used	Cells used (HeLa, Jurkat E6, HEK293T, CEM/TART) Lentiviruses used: pNL43.Luc.R-.E-, (HIV-1) MC99IIIBDTat-Rev, pMuLE (multiple lentiviral expression) system
Viral Vectors	Retrovirus / Lentivirus (3rd generation) from a supplier
Biosafety Level(s)	BL1 (*E. coli*, plasmids) BL2 (lentiviral vectors, human cells) BL2 enhancements: - No sharps or glass pipettes used for lentivirus experiments. - Double-gloving used in all experiments using lentiviral vectors. - PI will conduct all replication-competent lentivirus experiments.

Work Practices	Verified proper work practices for experiments conducted at BL1, BL2.			
Laboratory Facilities	Verified proper lab facilities for experiments conducted at BL1, BL2.			
Training and Expertise of Research Personnel	PI provided CV/biosketch for IBC to verify PI's training and expertise. PI completed training on *NIH Guidelines* for Principal Investigators. PI indicated plans to make biosafety protocols available to lab staff and train lab staff in safe work practices and procedures for incidents.			
Major Discussion Points	PI added the amount and titer of viral vector used PI added proper procedures for disposal of liquid and solid biohazard waste, including glass and plastic pipets PI renewed expired *NIH Guidelines* training.			
Motion to Approve	A motion was made to approve this protocol as is			
	Votes For: 13	Votes Against: 0	Abstained: 1	Conflict of Interest: Dr. William Jackson abstained from voting on this project

Protocol #	1-0168-0626
Protocol Type	Renewal
PI Name	Alissa Armstrong
Project Title	Examining the Role of Adipocyte Nutrient Sensing in the Control of Oogenesis
Section of NIH Guidelines	Section III-D-4, Section III-F-5
Characteristics of Agent(s) or Material(s)	All recombinant and synthetic nucleic acids used in experiments target only Drosophila genes of interest. All recombinant nucleic acid molecules used in the lab are pre-established transgenic Drosophila melanogaster lines obtained from stock centers. The use of fly traps minimizes the likelihood of flies to escape the lab. If flies do escape, there is minimal concern for the environment and/or community because their short lifespan makes generation of a substantial number of progeny unlikely, and altered nucleic acids would be greatly diluted within the first generation and subsequent generations.
Manipulations/Procedures & Risk Assessment	All transgenic flies will be kept in the PI's primary lab and housed in plastic vials or bottles with solid cotton closures. Most transgenic flies will be located on shelving units at room temperature and experimental flies will be maintained in Drosophila specific incubators. To avoid breeding sites and harborage, supplies used for fly maintenance are

	stored in a separate room and food is not allowed in the main lab. Flies will be anesthetized with carbon dioxide when handled in a non-contained manner. Methods of disposal include sealed containers with 70% ethanol for Drosophila adults and overnight freezing for vials and bottles containing eggs, larvae and adults. No flies will be flushed down the drain. Fly traps consisting of apple cider vinegar will be dispersed throughout the main lab, the fly food kitchen, other research labs on the same floor and in the hallway to control accidental dispersal. Fly traps will be disposed of and exchanged for new ones monthly. Each transgenic line will be labeled with the full genotype, date received and source. Experiments involving the use of transgenic Drosophila lines are classified as Arthropod Containment Level 1 (ACL-1). Syringe needles will be single use, never recapped, and disposed of properly in a sharps container. There are no known risks/hazards associated with these experiments.			
Source(s) and Nature of Nucleic Acid Sequences **Transgene Expression & Function of Protein**	The source of nucleic acid sequences includes *Aequorea victoria, Drosophila melanogaster,* and *Saccharomyces cerevisiae.* The nature and function of nucleic acid sequences include receptors and kinases in insulin signaling pathway, amino acid transport, transcription factors, kinase mediation of mTOR signaling, enzymes that conjugate histidine to its tRNA, enzymes involved in the apoptotic pathway, DNA regulatory region sequence, and fluorescent reporter protein.			
Host(s) & Vector(s) Used	All based in *Drosophila melanogaster*			
Viral Vectors	None			
Biosafety Level(s)	ACL-1			
Work Practices	Verified proper work practices for experiments conducted at ACL-1.			
Laboratory Facilities	Verified proper lab facilities for experiments conducted at ACL-1.			
Training and Expertise of Research Personnel	PI provided CV/biosketch for IBC to verify PI's training and expertise. PI completed training on *NIH Guidelines* for Principal Investigators. PI indicated plans to make biosafety protocols available to lab staff and train lab staff in safe work practices and procedures for incidents.			
Major Discussion Points	PI verified locations for fly traps			
Motion to Approve	A motion was made to approve this protocol as is			
	Votes For: 14	Votes Against: 0	Abstained: 0	Conflict of Interest: None

V. New Business / Additional Topics

BSO was asked about biosafety training offered during the summer. BSO shared that increased biosafety training is offered for high school and undergraduate students conducting summer research.

The committee requested for the BSO to send out a poll to evaluate an in-person December meeting and verify a quorum with representatives from the regional campuses.

VI. Review of Incidents

No new incidents were reported.

VII. Inspections/Ongoing Oversight

Scott Tanner had no biosafety deficiencies during the most recent lab inspection.

Nathan Hancock, Michael Shutman, Hippokratis Kiaris, William Jackson, Alissa Armstrong corrected the minor biosafety deficiencies identified during the most recent lab inspections.

Mengqian Chen has been a non-tenured track research faculty at USC collaborating with other researchers for the last several years. He was recently promoted to a tenure-track principal investigator position with his own lab space. Dr. Chen's first lab safety inspection will be completed in July.

VIII. IBC Training

No IBC training was conducted.

IX. Public Comments

No public comments were received.

X. Meeting Adjournment

The IBC meeting was adjourned at 3:59 pm.