MEETING MINUTES
INSTITUTIONAL BIOSAFETY COMMITTEE (IBC)
CLEMSON UNIVERSITY
November 11, 2025-Zoom

Call to order at 12:02PM by the Chair, James Morris. The IBC has 10 voting members, and 6 members are required to conduct business. The Chair votes in the event of a tie vote or a need to have a quorum. The Chair is not voting.

Attending:
James Morris-IBC Chair
Cassie Gregory-Staff member
Sachin Rustgi-Plant Expert
Daniel Whitehead-Chemical Expert
Matt Breed-University Vet[1]
Cheryl Ingram-Smith-IBC Vice Chair
Kerri Kwist-BSO
Bonnie Kelley, Community Member
Jim Grieger (alternate BSO)
Allison Honea-Occupational Health (ex officio)[2]
Rhonda Ryals-Research Security (ex-officio)
Chris Saski-Plant Expert/Gene Drive Expert
Robin Tyndall, ORC Director (ex-officio)[3]

Not in Attendance: Michele Eller, Community Member

In Attendance ORC: Hope Smith-Sielicki-IBC Administrator

1-arrived at 12:03p 2-arrived at 12:05 3-arrived at 12:09p

Call to Order

- **CONFLICT OF INTEREST**

  All IBC members are reminded of their obligation to disclose any potential conflicts of interest. According to the NIH Guidelines, no member may be involved (except to provide information) in the review or approval of a project in which they have been or expect to be engaged or have a direct financial in the project or its outcomes

I. MINUTES OF LAST MEETING(S)

1. A motion was made and seconded to approve the October 6, 2025, meeting minutes.

Tally: For-7 Against-0 Abstain-0

Motion approved.

II. TRAINING AND ANNOUNCEMENTS

None

II. OLD BUSINESS

IBC2025-0174 Jessica Larsen

Title:	Encapsulation of Adenovirus into Polymersomes
Review type:	Full Committee
Designated Reviewers:	Chair and BSO
Purpose:	The purpose is to encapsulate these adenoviruses in polymer-based nanoparticles called polymersomes to improve their delivery to target cells.
NIH Guidelines:	III-D-3
Biocontainment:	BSL-2
Status:	On agenda for Full Committee Review

Items discussed included: This is an on-going protocol from the Larsen lab. This protocol involves recombinant DNA work that falls under section IIID.3 (whole plants) and biosafety concerns (RG2 organisms). This proposal describes efforts to encapsulate adenovirus particles into polymerosomes (a type of nanoparticle) for improved delivery to cells. The recombinant DNA work (using the recombinant virus that expresses GFP) falls under III.D.3. The adenovirus is an RG2 agent and requires BSL2 containment. Human adenovirus type 5-Ad5FDgT is a recombinant virus that expresses eGFP. The nanoparticles are polyethylene glycol derivatives and are minimally hazardous. Items that were requested to be clarified in the protocol had been taken care of

A motion was made to approve the protocol.

Tally: For-8 Against-0 Abstain-0

Motion approved

III. NEW PROPOSALS- RECOMBINANT DNA FULL REVIEW

III.a Section III-D - Experiments that Require Institutional Biosafety Committee Approval Before Initiation

IBC2025-0132 David Feliciano

Title:	Mouse Brain Engineering
Review type:	Full Committee
Designated Reviewers:	Chair and BSO
Purpose:	The purpose is to determine the effect of TSC mutant neurons on SEGA growth. This project addresses an important problem and a critical barrier to progress in the field because it will determine a) the neuron subtypes present and their connections b) the extent to which these neurons control SEGA growth c) the extent to which TSC mutant neuron GABA and mutant NSC GABA receptors regulate SEGA growth.
NIH Guidelines:	III-D-4, III-E-3
Biocontainment:	BSL-1,2
Status:	On agenda for Full Committee Review

Items discussed included: This is an on-going protocol from the Feliciano Lab.This protocol describes experiments that include biological hazards and recombinant DNA. Both will also be used in animals. The biosafety work will be performed at BSL2/ABSL-2, which is appropriate for the hazard, AAVs (adeno-associated viruses). Cage changes for animals will need to be completed in a BSC. The project will explore how subependymal nodules and subependymal giant cell astrocytomas (SEGAs) are formed and the role of neurons in that. To complete the work, the group will microinject and electroporate rodent pups using an approach the Feliciano lab has employed for years. This step creates the SEGAs through CRE recombinase in the transgenic mice that are conditional expressers of Tsc2. In parallel, AAVs will be delivered to infect various neurons. These viruses encode one of two receptors that are either activated or inhibited by clozapine N oxide. Different viruses have different neuron subtype specific promoters, allowing assessment of the subtype role in SEGA formation.

A motion was made to approve the protocol.

Tally: For-8 Against-0 Abstain-0

Motion approved

IBC2025-0199 Jennifer Mason

Title:	Elucidating Role of DNA repair proteins in Human Cancer Cells
Review type:	Full Committee
Designated Reviewers:	Chair and BSO
Purpose:	The purpose is to study the mechanism of DNA repair in cultured human cells to determine how these pathways prevent genome instability.
NIH Guidelines:	III-D-1, III-D-2, III-F-8
Biocontainment:	BSL-2
Status:	On agenda for Full Committee Review

Items discussed included: This is an on-going protocol from the Mason Lab. This proposal involves the use of a spectrum of human cell lines These are RG2 hazard level, hence the BSL2 containment requirement. The recombinant DNA work includes human DNA repair genes cloned into mammalian expression vectors for studies in mammalian cell culture and may use bacterial shuttle vectors (so, IIID1 and 2). siRNAs or Cas9 protein with gRNAs will be transiently introduced by transfection to knockdown or edit genes. Additionally, genes involved in DNA repair will be expressed in human cells lines (this includes mutant variants) to study the role of these in repair. Remove incineration from waste disposal and add OES to pick up.

A motion was made to approve the protocol with requested change.

Tally: For-8 Against-0 Abstain-0

Motion approved

IBC2025-0186 Congyue Peng

Title:	Peng Lab Projects (SMA treatment, early detection of cancer, Rapid Test Development)
Review type:	Full Committee
Designated Reviewers:	Chair and BSO
Purpose:	The purpose is to study genetic diseases such as neuronal disease, cancer, autoimmune diseases, or infectious diseases. Our focus spans population surveillance, early detection, diagnosis, and treatment.
NIH Guidelines:	III-D-1, III-E-3, III-E-4

Biocontainment: BSL-1/2
Status: On agenda for Full Committee Review

Items discussed included: This is a new protocol from the Peng Lab. This protocol includes a breadth of experiments aimed at studying disease (in this case, mostly neuromuscular disease). The work will be performed under BSL2 containment, as human cells and tissues (blood, breast tissue, saliva) are involved. Additionally, nanomaterials, including exosomes isolated from cells and liposomes generated to carry proteins, will be part of the work. The recombinant DNA work includes transfection of various cell lines with plasmids and development of transgenic rodents. The work falls under III-D-1, III-E.3 and III-E.4.

A motion was made to approve the protocol.

Tally: For-8 Against-0 Abstain-0

Motion approved

IBC2025-0209 Congyue Peng

Title: Assessment of Virus Entry to Various Cell Types
Review type: Full Committee
Designated Reviewers: Chair and BSO
Purpose: The purpose is to study the mechanism of how the hDPSCs respond to viral infection, how it enters the hDPSCs, so we will use a pseudotyped lentivirus engineered to display the SARS-CoV-2 spike protein "spike pseudovirus" with the addition of some peptides that block the viral entry into the cells.
NIH Guidelines: III-D-3, III-E-1
Biocontainment: BSL-2
Status: On agenda for Full Committee Review

Items discussed included: This is a new protocol from the Peng Lab. This work describes efforts to block cell infection by a pseudotyped virus (a lentivirus that expresses the spike protein from SARS-CoV-2 with a peptide. Various cells will be challenged with or without the peptide. The work requires BSL2 containment for viruses and human cells and falls under IIID.3 due to the use of the viruses in tissue culture. Please add HEK cell info in Section B.

A motion was made to approve the protocol pending HEK cell info being added.

Tally: For-8 Against-0 Abstain-0

Motion approved

IBC2025-0215	**Sourabh Dhingra**
Title:	Molecular Mechanisms of Pathogenicity in Aspergillus fumigatus
Review type:	Full Committee
Designated Reviewers:	Vice Chair and BSO
Purpose:	The purpose is to elucidate molecular pathways associated with pathogenicity in Aspergillus fumigatus. This involves studying virulence, and stress response, including anti-fungal drug response via reverse genetics and forward genetic screening to identify genes involved in various stresses and virulence.
NIH Guidelines:	III-D-1, 2
Biocontainment:	BSL-1/2
Status:	On agenda for Full Committee Review

Items discussed included: This is an on-going protocol for the Dhingra Lab. The research examines pathways involved in pathogenicity in Aspergillus fumigatus, a fungal respiratory pathogen. Dr. Dhingra's lab is working to identify genes associated with response to stresses, including antifungal drugs, pH, cell wall agents, and low oxygen. They will create mutants to study the role of genes of interest in these different stress responses and pathogenicity. They will use a mouse model of invasive pulmonary aspergillosis to assess virulence of the mutants and their response to antifungal drugs.
There are some concerns here to be discussed:
(1) The PI plans to examine cross-species conservation of function by transferring genes between Aspergillus fumigatus and Aspergillus nidulans. They will also transfer genes from genetically intractable strains into A. fumigatus. Mention is made of gene functions that regulate mycotoxin production, which could create more harmful strains. A key thing here is that the genes to be targeted are not listed. PI states that the target genes will be identified based on forward genetics or via sequencing experiments. It is not fully clear what types of genes will be targeted so it is difficult to fully assess the risk of creating more virulent strains of A. fumigatus or strains that are more drug resistant.
(2) PI states that all fungal isolates collected, acquired, or generated will be stored at -70C, yet also state that genetically intractable Aspergillus species will not be grown in the lab, but DNA will be acquired from other labs. PI also states that fungal isolates will be grown in the lab as slants, on plates, or in liquid medium. This will require clarification as to what strains will be grown in the lab and which won't, especially since they state that they will acquire azole-resistant

strains. The goal is to create less resistant strains, but manipulation of resistant strains could backfire and result in higher resistance.
(3) There is an IACUC protocol in place for mouse work, but how mice would be used is not discussed. Presumably to analyze how virulent the modified strains are and whether they are more or less azole-resistant in an animal model of infection. If mouse work will be done as part of this protocol Section III-D.4 should also be checked.
These items should be discussed and clarifications to the protocol are needed to address them

A motion was made to table the protocol.

Tally: For-8 Against-0 Abstain-0

Motion approved

III.b Section III-E - Experiments that Require Institutional Biosafety Committee Notification Simultaneously with Initiation

None

IV. NEW RECOMBINANT DNA PROTOCOLS THAT ARE EXEMPT REVIEW (SECTION III-F OR APPENDIX C)

None

V. NEW PROPOSALS NOT INVOLVING RECOMBINANT DNA REQUIRING FULL COMMITTEE REVIEW

IBC2025-0202 **Miren Vega**

Title: Environmental, human, and animal health risks from the dissemination of carbapenem-resistant enterobacteriaceae into agricultural watersheds
Review type: Full Committee
Designated Reviewers: Chair and BSO

Purpose:	The purpose is to evaluate the role of nutrients in the dissemination of carbapenem resistance genes within periphyton biofilms and in the transfer of these genes from periphyton to a grazer species under controlled laboratory conditions.
NIH Guidelines:	N/A
Biocontainment:	BSL-2
Status:	On agenda for Full Committee Review

Items discussed included: This is a new protocol from the Vega Lab. Environmental, human, and animal health risks from the dissemination of carbapenem-resistant enterobacteriaceae into agricultural watersheds. This protocol describes work to assess the transfer of NDM-carrying E. coli to grazers (fish) that feed upon periphyton biofilms (the slimy layer in aquatic settings). The NDM-carrying E. colirequirese BSL2 containment, as these are highly resistant to antibiotics including front line carbapenems. The bacteria are on the Regulated livestock and poultry pathogen list and are coming from Ohio State, so I think an APHIS permit will be needed for import.

A motion was made to approve the protocol pending BSL2 lab location info being updated.

Tally: For-8 Against-0 Abstain-0

Motion approved

VI. NEW BUSINESS

1. Report of Actions was reviewed and accepted by the committee.
2. The BSO reported:
    - No rDNA spills or accidents
3. The Occupational Health Office reported:
    - No rDNA accidents reported
    - Allison Honea was introduced as the new Occupational Health nurse

VII. NEXT MEETING

Tuesday, December 2, 2025 at 2pm

VIII. ADJOURNMENT

A motion was made to adjourn at 1:05pm.

Approved by:

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James Morris, Ph.D. Date
Chair, Institutional Biosafety Committee
Professor, Genetics and Biochemistry