MEETING MINUTES
INSTITUTIONAL BIOSAFETY COMMITTEE (IBC)
CLEMSON UNIVERSITY
July 14, 2025-Zoom

Call to order at 9:04AM by the Chair, James Morris. The IBC has 7 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[2]
Daniel Whitehead-Chemical Expert
Cheryl Ingram-Smith-IBC Vice Chair[1]
Kerri Kwist-BSO
Chris Saski-Plant Expert/Gene Drive Expert
Jim Grieger (alternate BSO)
Bonnie Kelley, Community Member
Robin Tyndall, ORC Director (ex-officio)

Not in Attendance: Matt Breed-University Vet
Rhonda Ryals-Research Security (ex-officio)
Michele Eller, Community Member
Caitlin Kickham-Occupational Health (ex-officio)

In Attendance ORC: Hope Smith-Sielicki-IBC Administrator

1 Arrived at 9:12a 2. Arrived at 9:21a

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. TRAINING AND ANNOUNCEMENTS

1. It was announced that we are working on a new format for the minutes based on the guidelines the NIH published on June 2, 2025. We will also include

OGC on IBC Minutes approval, so once that is in place we will vote to approve June minutes.

2. It was announced that the IBC chair and IBC administrator reviewed all active IBC protocols to report to USDA (report date of June 27, 2025) and NIH (report date of June 30, 2025) on GOF research activities at Clemson. No GOF activities were reported.

II. OLD BUSINESS

None

III. NEW PROPOSALS- RECOMBINANT DNA FULL REVIEW

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

IBC2025-0150	**Jeremy Tzeng**
Title:	In vitro testing of fluorescent Lm-spa+
Review type:	Full Committee
Designated Reviewers:	Chair and BSO
Purpose:	The purpose is to compare the effects of normal disease-causing Listeria with that of an attenuated Listerial strain (Lm-spa+) developed to use for delivery of therapeutics to target cancer cells. We would like to determine how our delivery strain affects and is affected by phagocytic cells such as macrophages.
NIH Guidelines:	III-D-1
Biocontainment:	BSL-2
Lab training:	Completed
Status:	On agenda for Full Committee Review

Items discussed included: This is a new protocol from Tzeng lab. This protocol describes experiments that involve recombinant DNA work with biological hazards that require BSL2 infrastructure to handle. The work falls under III.D.1, as the experiments will use an RG2 pathogen as a host-vector system. The team is going to generate fluorescent strains of listeria bacteria (a human pathogen) – one parental line an done that is already transgenic (Lm-spa+ strain: lacks its typical internalin A and B proteins but expresses the *Staphylococcus aureus* Protein A (SPA) on its surface). They will also add the phage lysin gene to the bacteria (to trigger autolysis of the bacteria upon invasion of the macrophage). All work will be in vitro, using macrophage-like RAW cells as hosts.

A motion was made to approve the protocol.

Tally: For-7 Against-0 Abstain-0

Motion approved

IBC2025-0158 Michael Sehorn

Title: DNA Repair by Homologous Recombination
Review type: Full Committee
Designated Reviewers: Chair and BSO
Purpose: The purpose is to delineate the biochemical mechanism of homologous recombination. Recombination is critical for proper chromosomal segregation. Failure to complete this process correctly results in cancer, disease and death. Experiments will focus on biochemical analysis of several proteins that have genetic implications in the recombination pathway.
NIH Guidelines: III-D-2,III-E-4, III-F-1
Biocontainment: BSL-1/2
Lab training: Completed
Status: On agenda for Full Committee Review

Items discussed included: This is a new protocol from the Sehorn lab. This protocol involves expression, purification, and characterization of proteins involved in homologous recombination. The source of the protein genes varies from yeast to humans. Because of the use of human DNA, this falls under IIID2. We recommend reduction of the BSL requirement (from 2 to 1) given the low risk associated with recombinant protein production in bacteria. Please have the PI indicate the disinfectant being used as well as being clear that their biohazards are picked up by OES.

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

Tally: For-7 Against-0 Abstain-0

Motion approved

The chair was asked to recuse himself while his protocol was being discussed.

IBC2025-0151 James Morris

Title: Nutrient Sensing and Hexokinases in the Pathogenic Free-living Amoeba

Review type:	Full Committee
Designated Reviewers:	Vice Chair and BSO
Purpose:	The purpose is to study the mechanisms these parasites use to metabolize carbon in order to identify possible drug targets.
NIH Guidelines:	III-D-1, 2,& III-E-4
Biocontainment:	BSL-2
Lab training:	Completed
Status:	On agenda for Full Committee Review

Items discussed included: This is an ongoing project in the Morris lab. This protocol describes work with three different pathogens (Naegleria, Balamuthia, and Acanthamoeba), all of which are free-living amoebae that infect humans to cause severe disease. The research has two main thrusts: (1) study the properties and test for inhibitors for glycolytic genes; and (2) development of genetic tools for use in Naegleria.

(1) Genes for glycolytic enzymes will be expressed in E. coli, proteins purified, and enzymes characterized. None of these genes are expected to lend pathogenic properties to E. coli. This type of work is very routine and poses little concern. Genomic DNA from the three pathogens will be used in PCR for gene amplification and cloning. No mention is made of growing Balamuthia or Acanthamoeba to test any inhibitors discovered. The protocol could be amended to include this later.
(2) Tools to be developed for Naegleria include RNAi gene silencing, heterologous gene expression, and CRISPR/Cas9 gene editing. Neomycin and hygromycin will be used as selectable markers and reporter genes such as GFP will be used during tool development, after which other genes could be tested. As this is focused on glycolytic genes there is no concern about introducing new properties (e.g., will not create super parasites).

This falls under Sections III-D.1, III-D.2, III-D.8, and III-E.4

A motion was made to approve the protocol.

Tally: For-7 Against-0 Abstain-1

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

None

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:
    - Nothing to report

VII. NEXT MEETING

Thursday, August 14, 2025-retreat

VIII. ADJOURNMENT

A motion was made to adjourn at 9:31am.

Approved by:

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