UNIVERSITY OF GEORGIA

University of Georgia NIH IBC Meeting Minutes
Thursday, August 28, 2025
Tucker Hall, Conference Room 124

Attendance:

	Voting Members:		*Staff:*
✓	**Barrera, Zeke**	✓	**Andrea Ferrero-Perez**
✓	**Brindley, Melinda (alternate)**	✓	**Rachel Johnston**
✓	**Burgess, Brandy**	✓	**Caleb Mason**
✓	**Chambers, Catherine**		
✓	**Davis, Ruth**		
✓	**Demesa Neace, Catherine**		
✓	**Esquivel, Sandy**		
✓	**Etheridge, R Drew**		
✓	**Helms, Shelly**		
✓	**Kimble, J Brian**		
X	**King, Christopher (alternate)**		
✓	**Kiser, Manley (alternate)**		***Guests:***
✓	**Kvitko, Brian**		**None**
✓	**Lafontaine, Eric (Chair)**		
✓	**Mohnen, Debra (alternate)**		
✓	**Ortega, Ynes**		
X	**Ottesen, Elizabeth**		
✓	**Perez, Daniel**		
✓	**Ristow, Donald**		
X	**Stockton, Patrick**		
X	**Tompkins, Mark (alternate)**		

Key: ✓ = present, **X** = absent

Meeting was open to the public.

Call to Order: Lafontaine called the meeting to order at 12:11 PM

New Members - not voting at this meeting:

- Full member: Dr. Ronald Drew Etheridge
- Community member: Dr. J. Brian Kimble
- Community member: Mrs. Catherine Demesa Neace

Departing Members:

- **Dr. Belen Cassera**
- **Mr. Donald Ristow**

Review of meeting minutes from 07/24/2025: The minutes were reviewed and approved.

VOTE			
Approved: 8	Against: **0**	Abstain:3	Tabled: **0**

1. **Protocols for full committee review:**

I. **Gene Regulation in Cryptosporidium (Kissinger 2025-0051)**

Presented by: Chambers

The proposed research focuses on understanding developmental regulation in Cryptosporidium, a significant pathogen affecting both humans and animals. Investigators have identified a previously unobserved regulatory mechanism in this organism and its relatives. The study aims to characterize this mechanism to deepen scientific understanding and potentially uncover new therapeutic targets for treating infections.

Training requirements are up to date for all personnel.
Labs in compliance with the NIH guidelines.

Discussion/Recommendation points:
The committee voted to approve the protocol with the following revisions:

1. Page 1- Add anticipated start date.
2. Page 5 - Expand non-technical synopsis for clarity to non-scientists.
3. Page 6: Clarify what work will be conducted in the U.S. vs. the U.K.; confirm whether DNA or RNA extraction applies.
4. Page 10 - Graduate students are mentioned but not listed under Key Personnel. Add names if applicable or note they will be added via modification.
5. Page 13 - #27 - Revise PPE section to recommend face shield, goggles, or safety glasses for splash protection.

VOTE			
Approved: 11	Against: **0**	Abstain: 0	Tabled: **0**

PI will be notified of the committee's request for modifications.

Protocol approved for:
Biosafety Leve: rDNA BL2, BSL-2
Animal Biosafety Level: N/A
Greenhouse Biosafety Level: N/A
Applicable NIH Guidelines: III-D-1-a; Appendices C-I, G, and B-II-C
Approved agent(s)/material(s): *Cryptosporidium parvum IOWA parasites obtained from Bunchgrass Farms; Human cells*

II. Design and production in E. coli of species-specific insecticides based on dsRNA (Momany C 2025-0053)
Presented by: Perez

The project aims to design, optimize, and produce double-stranded RNAs (dsRNAs) in E. coli for use as species-specific insecticides and potential treatments for honey bee viral diseases. These dsRNAs activate RNA interference pathways in insects, disrupting mRNA function and leading to antiviral or insecticidal effects. Delivery is via ingestion, and higher organisms are unaffected due to natural degradation of dsRNA.

The research focuses on developing a cost-effective production platform using inexpensive culture materials and food-grade purification. While application of dsRNAs to control pests and invasive species is outside the scope of this protocol, the lab will design, clone, and express various dsRNAs for future use. Any deployment as insecticides would require additional regulatory approvals from agencies such as EPA, USDA, FDA, and the Georgia Department of Agriculture. Commercial partners may be sought to pursue broader applications.

Training requirements are up to date for all personnel.
Labs in compliance with the NIH guidelines.

Discussion/Recommendations points:
The committee voted to approve the protocol with the following revisions:

1. Page 5 - Remove paragraph referencing commercial use of dsRNAs.
2. Page 6 - Technical Synopsis -
   a. Add justification for using E. coli RNAse III mutant strain HT115(DE3).
   b. Clarify objectives for testing dsRNAs in small hive beetles and C. elegans, and for developing mRNA-like vaccines for honey bees.
   c. Expand descriptions of L4440 and T777T plasmids used in RNAi studies.
3. Page 7 - #6 - Add reference to section III-D-4.
4. Page 7 - # 7 - Specify which genes will be targeted in small hive beetles and C. elegans.
5. Page 8 - #10 - Provide vector maps.
6. Page 13: Add policy or procedure for handling broken glass.

VOTE			
Approved: 11	Against: **0**	Abstain: **0**	Tabled: **0**

PI will be notified of the committee's request for modifications.

Protocol approved for:
Biosafety Level: rDNA BL1, BSL-1
Animal Biosafety Level: N/A
Greenhouse Biosafety Level: N/A
Applicable NIH Guidelines: III-D-4; III-F-1; III-F-8; Appendix C-II
Approved agent(s)/material(s): *E. coli* K-12; *C. elegans;* Small hive beetles

III. Functional Modulation of Escherichia coli O157:H7 by the Lettuce Phyllosphere Microbiome (Deng 2025-0054)
Presented by: Kvitko

The project investigates how E. coli O157:H7 (EcO157), a major foodborne pathogen, interacts with the native lettuce microbiome. EcO157 contamination poses serious public health risks and threatens the U.S. lettuce industry. Its ability to colonize lettuce surfaces is influenced by uneven microbial interactions, which remain poorly understood.

The research aims to map and analyze these interactions at the single-cell level using advanced microbiome imaging. Investigators will identify resident bacteria with potential to suppress EcO157 and study their effects on pathogen survival and distribution during post-harvest storage. The long-term goal is to reduce foodborne risks by manipulating the produce microbiome and improving processing strategies.

Training requirements are up to date for all personnel.
Labs in compliance with the NIH guidelines.

Discussion/Recommendations points:
The committee voted to approve the protocol with the following revisions:

1. Page 2 – #2 - Indicate “yes” or “no.”
2. Page 4 – Key Personnel - Add more detail beyond “Oversight.”
3. Page 5 – Non-Technical Synopsis - Define “effector strains.”
4. Page 7 – Technical Synopsis -
   a. Define effector strains and list relevant factors.
   b. Clarify lettuce growth location—greenhouse or growth chamber? Confirm if Georgia Environtron includes these facilities.
   c. Note that *P. syringae* B728a is a broad host range plant pathogen.
   d. Specify which experiment uses XFP labeling plasmids.
   e. Define “tsx.”
   f. Indicate accC1 confers Gentamicin resistance.
   g. Confirm if inoculated plants are incubated at Georgia Environtron—greenhouse or growth chamber? Correct concentrations to 10^4 and 10^5 cells/ml.
   h. List known effector strains (ES); note that new strains should be added via modification.

5. Page 7 – #7 **-** Add engineered A506 and B728a strains.
6. Page 8 – #11 **-** Revise to “yes,” fluorescent proteins are being expressed.
7. Page 9 – #13 **-** Add *P. syringae* B728a as a plant hazard.
8. Page 10 – #18 –
   a. Indicate “yes,” the work involves a plant pathogen from outside Georgia.
   b. Remove VS 16-6A; list permit number 611-23-10-70256.
9. Page 11 – #19 - Add other RG1 *E. coli* strains used in the project.
10. Page 12 – #25 –
    a. Provide soil decontamination and disposal procedures.
    b. Include decontamination procedures for greenhouse and/or growth chamber.
11. Page 15 – #31-
    a. Specify location of greenhouse and/or growth chamber.
    b. Add Georgia Environtron.

Note: Subcommittee will review the revised protocol for final approval.

VOTE			
Approved: 11	Against: **0**	Abstain: **0**	Tabled: **0**

PI will be notified of the committee’s request for modifications.

Protocol approved for:

Biosafety Level: rDNA BL2, BSL-2

Animal Biosafety Level: N/A

Greenhouse Biosafety Level: N/A

Applicable NIH Guidelines: III-D-1-a

Approved agent(s)/material(s): EcO157 (TW14588::accC1 Δstx); EcO157 (strain 818 and strain 5277); P. syringae B728a; P. fluorescens A506

IV. Regulation of protein transport in cilia (Lechtreck 2025-0056)
Presented by: Burgess

This project investigates how proteins are transported into cilia, focusing on the intraflagellar transport (IFT) pathway and potential alternative routes. The study aims to understand how IFT binds cargo and regulates transport frequency.

Researchers will use *Chlamydomonas reinhardtii* mutants obtained from a resource center and generated in-house via CRISPR/Cas9 genome editing. Transgenes will be cloned into expression vectors, maintained in *E. coli*, and introduced into *Chlamydomonas* cells by electroporation.

DNA used includes native *Chlamydomonas* sequences, antibiotic resistance genes, and epitope tags like GFP. Transgenic cassettes include regulatory sequences, tags, and selectable markers. CRISPR repair templates contain similar elements.

Chlamydomonas reinhardtii is non-infectious, non-toxic, and considered safe for lab use. It is even used in food products, reflecting its safety for humans and the environment.

Training requirements are up to date for all personnel.

Labs in compliance with the NIH guidelines.

Discussion/Recommendations points:

The committee voted to approve the protocol with the following revisions:

1. Page 4- Please include the academic degree for Zhang.
2. Page 5 – Non- Technical Synopsis – Clarify the rationale for the study by adding context to explain its purpose.
3. Page 6 – Technical Synopsis –
   a. Revise the section to be more concise and summary-focused.
   b. b. Specify culture volumes for algae and E. coli.
4. Page 7 - #7 – Clarify the use of antibiotic resistance cassettes and ensure consistency with the synopsis.
5. Page 12 - #24 – Note that bleach solutions must be freshly prepared, as they are only effective for 24 hours. Also, clarify which procedures will use the 10% v/v bleach solution.

VOTE			
Approved: 11	Against: **0**	Abstain: **0**	Tabled: **0**

PI will be notified of the committee's request for modifications.

Protocol approved for:

Biosafety Level: rDNA BL1, BSL-1

Animal Biosafety Level: N/A

Greenhouse Biosafety Level: N/A

Applicable NIH Guidelines: III-D-1-a

Approved agent(s)/material(s): *Chlamydomonas reinhardtii;* green alga ("plantimal"); *E. coli* K-12*; E. coli* BL21

3. New Business

I. **The next IBC meeting will be on Thursday, September 25, 2025, from 12:00 pm to 2:00 pm.** The meeting will be held at Tucker Hall, Conference Room 124.

4. Old Business

I. **Update on protocols reviewed at July's meeting –**

a. Revisions for protocols reviewed at July's BC meeting have been received.

II. Incident Reports - None

For the Good of the Order: The meeting adjourned at 12:38 PM.