UNIVERSITY OF GEORGIA

University of Georgia NIH IBC Meeting Minutes
Thursday, July 24, 2025
Tucker Hall, Conference Room 124

Attendance:

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

1. **Review of meeting minutes from 06/24/2025:** The minutes were reviewed and approved.

VOTE			
Approved: 7	Against: **0**	Abstain:2	Tabled: **0**

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

I. **Cracking the Code of Field-Stable Resistance to Cotton Bacterial Blight (Kvitko 2025-0048)**

Bacterial blight is a serious disease that affects cotton and can lead to major crop losses. It is caused by the bacterium *Xanthomonas citri pathovar malvacearum* (Xcm) that unexpectedly returned in the 2010s, leading to more than $4 million in damage to Georgia cotton farms over just a few years. Fortunately, most cotton varieties grown today carry a natural form of protection, the disease resistance gene known as B12, which has helped keep the disease under control for decades.

Still, we don’t fully understand why B12 resistance has remained so effective for so long. This project will explore how B12 resistance works and why the bacteria have not been able to defeat it. To do this, researchers will study a group of bacterial proteins that can trigger the plant’s defenses. They will temporarily produce these proteins in cotton seed leaves; they can identify which proteins can trigger the B12 resistance system.

Researchers will be cloning 37 Type III Secretion System effector genes from the Xcm 4.02 field isolate into a plant expression vector with a visible RUBY reporter system. These constructs will be introduced via Agrobacterium-mediated transient expression in cotton cotyledons, followed by visual screening for programmed cell death (hypersensitive response) and betalain pigment loss.

Their goal is to understand what makes B12 resistance so durable, so they can watch for signs that new strains of the disease might be evolving to overcome it. This knowledge will also help them develop better ways to protect cotton from other diseases. In the long term, this research will support more reliable cotton production and reduce losses for farmers across the country.

All personnel training is current, and laboratory operations comply with NIH guidelines.

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

1. Page 5 – Technical Synopsis-
   a. Expand the use of *E. coli* K-12.
   b. Clarify the procedure involving needleless syringes and Agrobacterium.
   c. Indicate lab retention time for cotton cotyledon leaves.
   d. Specify remaining duration of plant growth.
   e. Note the location of infected plant cultivation
2. Page 8 - # 13 – Confirm whether the Xanthomonas citri pv. malvacearum gene or the bacterium itself is being used.
3. Page 12 - # 27 – Provide details on the growth chamber decontamination procedure.
4. Page 13 - #30 – Clarify the noted sharps usage discrepancy.

VOTE			
Approved: 9	Against: **0**	Abstain: 0	Tabled: **0**

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

<u>Protocol approved for:</u>
Biosafety Leve: rDNA BL1, BSL-1, BSL-1P
Animal Biosafety Level: N/A
Greenhouse Biosafety Level: N/A
Applicable NIH Guidelines: III-F-8, III-E-1, III-E-2, Appendices C-II and L
Approved agent(s)/material(s): *E. coli K-12; Agrobacterium tumefaciens GV3101 (disarmed); Xanthomonas citri pv malvacearum (Xcm) strain 4.02 Georgia field isolate.*

II. Mechanisms of Immunoregulation and Inflammation in Mice (Watford 2025-0050)

Project 1: This study investigates how type I interferons—key immune signaling proteins—affect health during infections and autoimmune diseases. While these proteins help fight viruses, excessive or prolonged activity can worsen outcomes, as seen in severe cases of COVID-19 and influenza.

Researchers will use in vivo and in vitro models with either diminished or heightened interferon responses to study their biological effects. Prior findings indicate that elevated interferon levels can disrupt antioxidant and metabolic functions, weakening a cell's resilience under stress.

Additionally, a protein called PLAC8 has been identified as a potential factor in determining susceptibility to infection.

The overarching goal is to better understand how interferons shape immune regulation and cellular stress mechanisms—insights that may lead to improved treatments for infectious and autoimmune conditions.

Project 2: This project focuses on cryptococcal meningoencephalitis—a life-threatening fungal brain infection responsible for a significant number of AIDS-related deaths. Despite available treatments, survival rates remain critically low, and there is currently no vaccine.

Researchers are investigating an engineered fungal strain called ZNF2oe, which can safely induce long-lasting immune protection, even in hosts with reduced CD4 T cell counts—a condition common among individuals living with AIDS. The goal is to identify specific immune signals and cell types that contribute to this protection.

By evaluating immune responses following vaccination with different ZNF2oe strains, the study seeks to uncover how durable immunity is established and maintained. These findings are expected to inform the development of effective vaccines to safeguard vulnerable populations from this deadly disease.

Discussion/Recommendations points:

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

1. Page 1 – Department Chair's signature is required for approval.
2. Page 6 – Technical Synopsis –
    a. Describe inoculum prep, including max volumes and titers.
    b. Clarify activities under each AUP.
    c. Confirm if public roads are used for sample transport; if yes, DOT training is required.
3. Page 7 - # 7 – Move current content to Part A, #2.
4. Page 13 - # 27 – Add eye protection for BrdU use; specify type.
5. Page 14 - #30 – Provide BBP training dates.
6. Page 15 - # 31 – Update per revised technical synopsis.
7. Page 15 - #33 – Add Coverdell autoclave room number.
8. Page 15- # 32 – Schedule BSC recertifications.
9. Page 16 - #36 - Check all boxes

VOTE			
Approved: 9	Against: **0**	Abstain: **0**	Tabled: **0**

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

<u>Protocol approved for:</u>

Biosafety Level: rDNA BL2, BSL-2
Animal Biosafety Level: ABSL-2
Greenhouse Biosafety Level: N/A
Applicable NIH Guidelines: III-D-4; III-D-4-c-(2); Appendices C-VII and C-VIII

Approved agent(s)/material(s): Influenza A virus strains (PR8 and x31); Cryptococcus neoformans; Citrobacter rodentium; Mycobacterium marinum; Cryptococcus neoformans ZNF2-overexpressing fungal cells; Human cells

3. New Business

I. **The <u>next IBC meeting</u> will be on <u>Thursday, August 28, 2025</u>, 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 June's meeting –**

a. Revisions for protocols reviewed at June's IBC meeting have been received.

II. **Incident Reports - None**

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