DONALD DANFORTH
PLANT SCIENCE CENTER
DISCOVERY | COMMUNITY | IMPACT

Institutional Biosafety Committee Meeting Minutes

June 6, 2025

Location: Zoom Meeting **Time:** 9:00AM

IBC Members present

Rosalee Knipp	Local Community Member
Sona Pandey	IBC Chair
Kevin Reilly	Plant Containment Expert
Jim Cox	EHS Expert
Ross Johnson	Regulatory Expert
Bing Yang	Pathogen Expert
Katie Siech	Biosafety Specialist
Beth Elam Michaud	Local Community Member
Brooke Schmitt	IBC Administrator, Non-Voting

IBC Members absent

Mindy Darnell	Biological Safety Officer
Veena Veena	Recombinant and Synthetic Nucleic Acids Expert
Sandra Arango-Caro	Human Subjects Expert
Ru Zhang	Plant/Lab Technical Expert

I. Old Business

A. Approval of Minutes – April 28th

1. 7-yes/0-no/0-abstentions.

B. Closed Items (Protocols fully approved between meetings):

1. Protocols or Amendments previously granted contingent approval by the full IBC where the PI responses were reviewed and approved between meetings by the BSO or designee:
    - None
2. Protocols or Amendments not meeting threshold of requiring full committee review based on NIH guidelines and DDPSC IBC Policy that were reviewed and approved by the BSO or designee:
    - Mao Lio, Ph.D., (IBC Protocol – New) Protocol #: IBC25-0024
    - Mao Li, Ph.D., (IBC Protocol – New) Protocol #: IBC25-0035
    - Rebecca Bart, Ph.D., (IBC Amendment – New) Protocol #: IBC22-0031
    - Doug Allen, Ph.D., (IBC Amendment – New) Protocol #: IBC24-0005

- Armando Bravo, Ph.D., (IBC Amendment – New) Protocol #: IBC24-0055

3. Annual Reviews that were reviewed and approved by the BSO or designee:
   - None
4. Protocols Closed (at the request of the PI):
   - None

C. Open Items (Protocols reviewed by the IBC but not fully approved)

1. New protocols previously granted contingent approval by the full IBC where the PI responses have not yet been approved:
   - None

II. New Business

A. New Protocols

Principle Investigator	Ru Zhang
Protocol #	IBC25-0015
Title	Elucidating Functional Genomic Landscapes of Heat Sensing and Regulation in Photosynthetic Cells by using Green Algae
Protocol Description	Heat stress jeopardizes plant growth, reduces crop yields, and hinders biofuel production. This problem will only exacerbate as global warming progresses. The eukaryotic, unicellular green algae have several advantages over land plants to study heat stress. We will identify genes that are important for heat resistance in photosynthetic cells.
Types of Organisms	Plant
NIH Guidelines Agents	rsNA
NIH Guidelines Section	III-3-E
Containment Level	BSL-1, BLP-1
IBC Review	The committee reviewed and discussed containment levels, personnel training, facilities involved, procedures and practices, agent characteristics (if applicable), and rsNA details (if applicable).
IBC comments (to be addressed by PI)	The IBC requested additional details related to how the library will be generated.

	The PI is asked to add laboratory personnel working on the project as well as specific genes of interest for the rsNA work.
IBC Decision	The IBC voted to contingently approve the protocol (7-yes 0-no/0-abstention).

Principle Investigator	Ru Zhang
Protocol #	IBC25-0016
Title	Collaborative Project: Regulation of Sustained Cyclic Electron Flow (CEF) in Green Algae
Protocol Description	Photosynthesis is vital for agriculture production and increasingly for renewable energy production. Especially, cyclic electron flow (CEF) around photosystem I (PSI) is an essential mechanism plants have evolved to help maintain energy balance. To study the regulation of CEF, we will employee green algae from Antarctica which has constitutively high CEF activity under steady growth conditions. We will employ the green algae as a model to study the regulation of CEF.
Types of Organisms	Plant
NIH Guidelines Agents	rsNA
NIH Guidelines Section	III-3-E
Containment Level	BSl-1, BLP-1
IBC Review	The committee reviewed and discussed containment levels, personnel training, facilities involved, procedures and practices, agent characteristics (if applicable), and rsNA details (if applicable).
IBC comments (to be addressed by PI)	The PI is asked to add specific genes of interest for the rsNA work.
IBC Decision	The IBC voted to contingently approve the protocol (7-yes 0-no/0-abstention).

Principle Investigator	Nigel Taylor
Protocol #	IBC25-0026
Title	Engineering Genetic Resistance to Geminivirus Pathogens (POC Project)

Protocol Description	We will introduce different alleles of a gene from cassava into tomato. Resulting transformants will be screened for improved resistance to the Geminivirus.
Types of Manipulation	Plant, Viruses
Agents	rsNA
Containment level	BSL-1, BLP-1
Applicable section of NIH Guidelines	III-E-3
IBC Review	The committee reviewed and discussed containment levels, personnel training, facilities involved, procedures and practices, agent characteristics (if applicable), and rsNA details (if applicable).
IBC comments (to be addressed by PI)	The P.I. is asked to update the language regarding the Hummert compliance agreement for waste disposal.
IBC Decision	The IBC voted to contingently approve the protocol (7-yes 0-no/0-abstention).

Principle Investigator	Nigel Taylor
Protocol #	IBC25-0027
Title	CWC Project Work Order 1
Protocol Description	DDPSC will produce and analyze field trial-quality cassava expressing RNAi constructs targeting up to three essential metabolic pathways within African cassava whitefly. Quality events will be propagated and shipped to Cassava Whitefly Control (CWC) partner institutions for detailed assessment of insecticidal activity against whiteflies.
Types of organisms	Plant
NIH Guidelines Agents	rsNA
NIH Guidelines Section	III-3-E
Containment Level	BSl-1, BLP-1
IBC Review	The committee reviewed and discussed containment levels, personnel training, facilities involved, procedures and practices, agent characteristics (if applicable), and rsNA details (if applicable).
IBC comments (to be addressed by PI)	The IBC requests clarification on where the field work is being done.

	The PI is asked to mark the project as an international project and clearly state where the field work is taking place.
IBC Decision	The IBC voted to contingently approve the protocol (7-yes 0-no/0-abstention).

Principle Investigator	Nigel Taylor
Protocol #	IBC25-0029
Title	CWC Project Work Order 2
Protocol Description	DDPSC will analyze existing cassava plants.
Types of organisms	Plant
NIH Guidelines Agents	rsNA
NIH Guidelines Section	III-3-E
Containment Level	BSl-1, BLP-1
IBC Review	The committee reviewed and discussed containment levels, personnel training, facilities involved, procedures and practices, agent characteristics (if applicable), and rsNA details (if applicable).
IBC comments (to be addressed by PI)	The IBC requests clarification on whether the cassava is already developed as stated in the summary, or if they are developing cassava for this project. The PI is asked to uncheck USDA regulated viruses, bacteria, fungi, and other microorganisms. They are also asked to uncheck GMOs will be generated at the Danforth Center (if applicable)
IBC Decision	The IBC voted to contingently approve the protocol (7-yes 0-no/0-abstention).

Principle Investigator	Ru Zhang
Protocol #	IBC25-0038
Title	SENTINEL: SENsing Threats In Natural Environments Using Ligand-Receptor Modules
Protocol Description	SENTINEL: SENsing Threats In Natural Environments using Ligand-receptor modules program aims to develop deployable plant systems to detect and report chemical and biological agents that pose threats to human health and agricultural production. Specifically, we will develop synthetic sense-and-response modules that report the presence of chemical and biological

	threats. This is a previously approved IBC reopened for paper revision. For the current work, we will phenotype Setaria lines in growth chambers and greenhouses. No chemicals will be used.
Types of organisms	Plant
NIH Guidelines Agents	rsNA
NIH Guidelines Section	III-3-E
Containment Level	BSl-1, BLP-1
IBC Review	The committee reviewed and discussed containment levels, personnel training, facilities involved, procedures and practices, agent characteristics (if applicable), and rsNA details (if applicable).
IBC comments (to be addressed by PI)	The IBC requests clarification on which work is still ongoing. The PI is asked to add a statement that clearly specifies which work is still ongoing and to add a potential risk associated with accidental exposure or environmental release.
IBC Decision	The IBC voted to table the protocol (7-yes 0-no/0-abstention).

B. Amendments & Continuing Reviews of Approved Protocols:

Principle Investigator	Armando Bravo
Protocol #	IBC24-0055-03
Title	IN2 - Multitrophic interactions between plants, bacteria and diverse soil fungi, to study the spectrum of symbiotic interactions, from mutualism to pathogenesis.
Protocol Description	This IBC protocol is being updated to add USDA permits for regulated bacteria and fungi, along with a safety intake form from an external company.
Types of organisms	Plant, Bacteria, Fungi
NIH Guidelines Agents	No changes
NIH Guidelines Section	III-3-E
Containment Level	BSL-1, BLP-1
IBC Review	The committee reviewed and discussed containment levels, personnel training, facilities involved, procedures and practices, agent characteristics (if applicable), and rsNA details (if applicable).

IBC comments (to be addressed by PI)	The P.I. is asked to check mark USDA regulated bacteria, viruses, fungi, and other microorganisms on the original protocol.
IBC Decision	The IBC provided contingent approval of the protocol (7-yes 0-no/0-abstention).

C. Other Business:

1. None

The meeting was adjourned at approximately 9:17 AM.

Reviewed and approved by:

Sona Pandey (Jul 29, 2025 14:33:23 CDT)

Sona Pandey, Ph.D.

Associate Member, Principal Investigator

Institutional Biosafety Committee Chair

Mindy Darnell (Jul 29, 2025 13:43:57 CDT)

Mindy Darnell, M.S.

Director, Environmental Health & Safety and Biosafety

Biological Safety Officer