**INSTITUTIONAL BIOSAFETY COMMITTEE MEETING**
**June 15, 2022**
**12:00 PM, JARTU A209 & Zoom Meeting**

MEMBERS PRESENT: Chair- Elizabeth Fozo, Vice Chair-Stephen Kania, Marc Caldwell, Lori Cole, Paul Dalhaimer, Lezlee Dice, George Dizikes, Doris D'Souza, Reza Hajimorad, Brittany Isabell, Jun Lin, Deidra Mountain, Jessica Vélez

Ex-Officio – Bryan Cranmore, Caleb Cummings, Ahmad, Mitoubsi, Brian Ranger, Daniel Thomas, Jessica Woofter

MEMBERS ABSENT: Feng Chen, Jae Park, Ling Zhao

OTHERS PRESENT: Benjamin Edenfield

**Opening:**

The IBC Chair called the meeting to order at 3:04 PM. The May 18, 2022 minutes were reviewed and approved as written.

**Full Member Review IBC Registrations:**

**#IBC-05-238-2 (Feng Chen) Infectious Agents & Recombinant DNA, III-E-2-a, 3-year rewrite**
Dr. Chen's research employs functional genomics and transgenic plant development to study various plant genes involved in resistance to insect pests or plant biomass production (bioenergy studies). Methyltransferase, acyltransferase, terpene synthase, and other cell wall-related genes derived from plants (rice, poplar, tobacco, soybean, and Arabidopsis), fungi (e.g., *Metarhizium spp.*), and amoebae (e.g., *Dictyostelium discoidium*) will be subcloned and assayed for specific enzymatic activities. Genes of interest will be cloned and mobilized onto binary vectors for Agrobacterium-mediated transformation of Arabidopsis, tobacco, and soybean. GUS and GFP will be used as reporter genes. Transformants are to be further analyzed and regenerated. The registration also included culturing Klebsiella pneumoniae (environmental isolate; non-CRE strain) to be used as food for cultured amoebae. The committee voted to approve the registration pending the clarification if VOCs are secondary metabolites, the addition of a statement clarifying that the study covers a wide range of taxa, selecting an appropriate NIH review classification (III-D-4-a), identification of synthetic promoters and gene IDs, an update to the biosafety cabinet certification dates, and clarification if the registration will involve import or interstate movement of plant pathogens, plant pests, or noxious weeds.

**#IBC-07-313-1 (Elena Shpak) Recombinant DNA Registration, III-E-2-a, 3-year rewrite**
Dr. Shpak's research involves generating transgenic Arabidopsis thaliana plants to investigate the mechanisms regulating plant size and shape. Recombinant constructs are designed so that growth-related genes are either overexpressed or turned off. Briefly, Agrobacterium strains carrying recombinant binary vectors are grown overnight and used to inoculate the aboveground parts of plants (dipping). Seeds are harvested and selected for transformants using antibiotic or herbicide selectable markers. Following analysis, seeds/plants are autoclaved and disposed of in the appropriate container. The committee approved the registration pending clarification of the EPFL (epidermal patterning factor/EPF-like) function in the non-technical summary, the addition of promoters of EPFL genes and EPFL genes, and an update of the spill response.

**#IBC-07-315-1 (Jae Park) rDNA, III-D-4-a, 3-year rewrite**
Dr. Park's research proposes the generation of transgenic Drosophila melanogaster to understand programmed cell death and associated gene functions in the Drosophila central nervous system. To produce transgenic Drosophila, genome editing will be facilitated by a CRISPR/Cas9 system. Briefly, flanking sequences from target genes will be cloned into a plasmid carrying a reporter gene (TagRFP). Target sequences selected for Cas9 cleavage will be cloned into a guide RNA-expressing plasmid construct. Both plasmids will be amplified in E. coli DH5-α, purified, and injected into fly embryos to induce homologous recombination, e.g., replacement of the target gene with a reporter gene. Surviving flies will then be screened for the fluorescent marker and confirmed by PCR. The containment level was established at BSL-1. The committee voted to approve the registration pending the clarification of abbreviations and the rewrite of the non-technical summary in lay terms; clarification about the use of sharps and injections; and the completion of question 12.1 for animal carcasses and pathological waste.

**#IBC-10-408-2 (Jiangang Chen) Human Derived Materials & Recombinant DNA Registration, III-F, 3-year rewrite**
Dr. Chen's research covers the use of human kidney, breast, and prostate cell lines (ATCC) to assess the functional activity of natural and synthetic chemical compounds. Specifically, the lab will test the transcriptional activity of receptors in response to chemical treatment. The cells will be transfected with plasmids carrying nuclear receptor family genes, including steroid receptor genes. The functional activity of these chemicals to interact with specific nuclear receptors will then be evaluated within these transfected cells. The committee approved the registration pending the clarification of downstream applications in the technical summary.

**#IBC-13-398-1 (Tarek Hewezi) Recombinant DNA, III-E, 3-year rewrite**
Dr. Hewezi's registration covers plant-parasitic nematodes that negatively impact plant growth development. His study will include transgenic Arabidopsis, tobacco, and soybean to study the genetic control of plant responses to biotic and abiotic stresses. Constructs include nematode effector genes and the host's modified genes (e.g., overexpression constructs of native Arabidopsis genes). Traditional plant transformation techniques (e.g., Agrobacterium-mediated gene transfer) will be used to generate transgenic plants. Containment was set at BSL-1/BL-1-P. The committee approved the registration pending the correction of typographical errors.

**Old Business:**

Administrative Report

*i. Contingencies*
Following up on May 18, 2022, IBC Meeting, Dr. Paul Dalhaimer's registration (#17-451-2) was corrected to include the addition of the source of transfected HeLa cells and JRS4 cells; the removal of nanoparticle references in the summaries; provide additional technical information regarding methods and handling of agents; provide clarification about plasma use, and the addition of a hepatitis B vaccine offer statement in the Health Surveillance section. Dr. Hameeda Sultana's registration (#22-579-2) was corrected to include the addition of specific information regarding CVM Room A333, Mossman as a backup location, CVM A227 autoclave information, and the addition of the most current autoclave validation date. Dr. Jeremiah Johnson's registration (#16-441-2) was corrected to include the removal of IACUC numbers 2812 and 2917 from Question 6.6; the addition of *Helicobacter pylori* to the Infectious Agents table; correction of minor typographical errors in the Technical Summary; and the addition of the Mossman animal facility location. Dr. Heidi Goodrich-Blair's registration (#16-442-2) was corrected to include the addition of *C. albicans* and *C. glabrata* on the host list; and the addition of a statement clarifying what is

being done with the Candida species and *Acinetobacter baumannii*. Dr. Daleniece Jones' registration (#22-578-2) was corrected to include a clarification about research procedures, collection of pathogens; the addition of Listeria monocytogenes serotype and E. coli O157:H7 and the antibiotic resistance profiles for *Salmonella serovars* in the Infectious Agents section; clarification about routine identification, the addition of genus and species of pathogens, clarification of sample collection methods, and control group serotypes in the Technical Summary; the addition of bleach shelf life; clarification about transportation of high-risk and TDH samples; and the addition of statement indicating exposure risks to women when working with *Listeria monocytogenes*.

ii. *Administrative Approvals*
Dr. Chunlei Su's registration (#21-566-2) was amended to include updated grant information, the removal of *Salmonella spp.,* removal of VMC A307 and C121 locations, removal of biosafety cabinets from VMC A307A, and the removal of storage units from VMC A307 and C121. The Biosafety Officer approved the amendment on 5/19/2022. Dr. Ahmed Bettaieb's registration (#15-432-2) was amended to include updates to personnel and the biosafety cabinet certification date and the addition of insert genes HMga2 and CYP. The IBC Chair approved the amendment on 5/20/2022.

iii. *Administrative Terminations*
Dr. Gladys Alexandre's registration (#12-392-1) will be terminated on 8/1/2022. Dr. Andrea Lear's registration (#17-449-2) was terminated on 6/2/2022.

iv. *Administrative Exemptions:*
None.

v. *Accidents, Injuries/Exposures:*
Brian Ranger notified the committee that several stakeholders, including IACUC and LSS, will follow up with Dr. Gerhold regarding the needlestick injuries and develop a plan for future mitigation of such injuries.

vi. *Laboratory Report:*
None.

vii. *iMedRIS Update, Manual Reviews, & System Orientation:*
None.

**New Business:**

<u>Review of Charter & SOPs</u>
Brian notified the committee that the Charter and SOPs were last approved and reviewed in July of 2019. A periodic review is due for the next IBC meeting. Jessica will add the documents to the IBC Teams group for members to review before the next meeting. Brian also notified the committee that the IBC registration with the NIH Science Policy is due in late July. No significant changes will be made, but Dr. Kania will be removed as the Vice-Chair and replaced by Dr. Deidra Mountain. Brian will also formalize the addition of Dr. Jessica Vélez to the committee.

Compressing the July & August Meetings

Jessica will be out in August and discussed with the committee about compressing future meetings. The committee agreed to combine the August and September meetings and reschedule the meeting for September 14th. The IBC Chair also discussed moving future meetings to both in person and having Zoom available with the committee.

The meeting adjourned at 1:07 PM. The next meeting scheduled is for September 14, 2022, from 1:00 – 2:00 PM EST at the UT Institute for Advanced Materials & Manufacturing (IAMM), Room 306, and via Zoom.