

INSTITUTIONAL BIOSAFETY COMMITTEE MEETING

August 19, 2020

3:00 PM, Zoom Meeting

MEMBERS PRESENT: Chair –Elizabeth Fozo, Vice Chair-Stephen Kania, Marc Caldwell, Feng Chen, Lori Cole, Paul Dalhaimer, Doris D’Souza, Lezlee Dice, George Dizikes, Reza Hajimorad, Jun Lin, Jae Park, Ling Zhao

Ex-Officio – Linda Hamilton, Ahmad Mitoubi, Brian Ranger, David White, Jessica Woofter

MEMBERS ABSENT: Brittany Isabell, Melissa Kennedy, Deidra Mountain

OTHERS PRESENT: Qiang He, Frank Loeffler

Opening:

The IBC Chair called the meeting to order at 3:02 PM. The minutes of July 15, 2020, were reviewed and approved as written.

Full Member Review IBC Registrations:

#IBC-05-240-1 (Albrecht von Arnim) Recombinant DNA, III-E-2-a, 3-year rewrite

Dr. von Arnim’s research covers the use of transgenic *Arabidopsis thaliana* to study the mode of action of plant genes involved in light signal transduction, development, protein translation, and regulation. His work consists of standard cloning hosts (*E. coli* and nonpathogenic yeasts) and Agrobacterium-mediated DNA transfer. The committee approved the registration pending clarification of the storage of the mature seeds. Containment for this project is BSL-2. The committee approved the registration pending clarification of the *Pisum sativum* usage in the Technical Summary and checking BL1-P for the greenhouse entries in the Facilities & Procedures Assessment Section.

#IBC-11-364-1 (Cong Trinh) Recombinant DNA, III-E-1, 3-year rewrite

Dr. Trinh’s research covers the use of *Escherichia coli* BL21, nonpathogenic yeasts (e.g., *S. cerevisiae*), and other low-risk bacterial hosts (e.g., *Clostridium butyricum*, *Bacillus subtilis*) as hosts for creating recombinant biosynthetic pathways, primarily for ethanol production. His research aims to generate biocatalysts that produce biofuels and biochemicals from renewable and sustainable lignocellulosic biomass. The containment level is BSL-1. The committee approved the registration pending clarification of the production volumes and biosafety cabinet certification dates.

#IBC-14-418-1 (Marc Caldwell) Infectious Agents, 3-year rewrite

Dr. Caldwell is investigating bacterial and viral pathogenesis in large animal models. One model investigates the role of *Mannheimia haemolytica* in pulmonary inflammation and bronchopneumonia in a calf model. Additionally, the mechanisms whereby bovine viral diarrhea

virus (BVDV) causes primary respiratory infection along with immunosuppression, as well as reproductive pathologies in cattle, sheep, goats, or pigs, will be investigated. Animal Hazard Control Forms detailing biosafety and biosecurity measures are available for all approved animal protocols. Briefly, (A)BSL-2 biosafety/biosecurity measures include limiting contact with infected animals to authorized study personnel, avoiding trafficking to other areas of the research facility after handling infected animals, rigorous disinfection of contaminated surfaces, and suitable PPE. The committee approved the registration pending the removal of inactive IACUC protocols, expansion on the biosecurity/biosafety measures in the Technical Summary, clarification of the bleach solution dilution and time, and an update to the spill response procedures.

#IBC-20-550-2 (Sree Rajeev) Infectious Agents, New registration

Dr. Rajeev's registration covers the study of *Leptospira*, which is one of the most widespread, life-threatening zoonotic diseases of global prevalence resulting in significant public health, animal health, and economic impact. *Leptospira* is caused by a spirochete bacteria belonging to *Leptospira*. Numerous strains of *Leptospira* are maintained in nature in the animal reservoirs and the environment. Dr. Rajeev is working on projects to advance knowledge of this bacteria's various aspects to develop better diagnostics for early detection and vaccines to prevent disease. For this purpose, they maintain cultures of live *Leptospira* in the laboratory. The live organisms are mainly used to detect host antibody response, characterization of the strains, and other potential future experimental studies. Containment for this project is BSL-2. The committee tabled the registration pending a more comprehensive list of strains, characteristics, how they are used, and concentrations. Additionally, the committee requested clarification of ethanol contact time when cleaning a spill in a centrifuge and clarifying the interstate movement of pathogens.

#IBC-20-551-2 (Qiang He) Infectious Agents, New registration

Dr. He was present to discuss his research on evaluating the potential occurrence of SARS-CoV-2 in built environments; and the impact of operational and management practices on the occurrence of SARS-CoV-2 in buildings. The project team plans to take indoor environmental samples during different operational modes, e.g., before and after classes are in session. Testing is conducted with these environmental samples using molecular techniques for the presence of SARS-CoV-2 nucleic acid biomarkers. The project procedures include the following tasks: 1) environmental sampling of indoor surfaces with swabbing; 2) RNA extraction from the swab samples; 3) molecular testing of SARS-CoV-2 biomarkers using standard RT-qPCR assays. Containment for this project is BSL-2. The committee approved the registration pending the addition of PPE usage and collection procedures in the Technical Summary, changing the containment level for the facilities from BSL-1 to BSL-2, and the biosafety cabinet information.

Designated Member Review IBC Registrations:

#IBC-20-547-2 (Frank Loeffler) Recombinant DNA & Human Derived Materials, III-D-2-a, Amendment

Dr. Loeffler was present to discuss his amendment regarding the addition of collecting saliva samples in coordination with the collection and pooling samples to be used as a screening method to eliminate a large number of people at once while testing for severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). Large scale testing is crucial for managing and mitigating the COVID-19 pandemic as it allows the identification and quarantine of positive cases to minimize community spread and avoid major outbreaks. If the result is positive, then that pool of people is submitted for more in-depth SARS-CoV-2 testing and diagnosis. Containment for this project is BSL-2.

Old Business:

Administrative Report

i. Contingencies

Following up on July 15, 2020, IBC Meeting, Dr. David Anderson's registration (#20-548-2) was edited to include the correction of typographical errors in the nontechnical summary; the addition of ST 398 strain details and its potential for transmission; removal of animal housing locations; the addition of clarification of volumes for *Staphylococcus aureus* strains and a statement indicating its treatment as a zoonotic agent; and updates to the biosafety cabinet certification date and spill response. Dr. Terry Hazen's registration (#20-549-2) was edited to include requested biosecurity/biosafety measures to the technical summary; checking "Yes" to questions 6.3, 6.5, 6.8 regarding centrifugation; indicating the facilities will be operating at BSL-2; clarification of PPE usage; the addition of volumes, contact time, and shelf life for disinfectants; an update to the spill response; clarification regarding the transport of materials in the technical summary; an update to autoclave certification; clarification about sharp waste generation; addition of a statement indicating the appropriate vaccinations (Hep A & B, Tetanus); and that personnel maintains COVID-19 surveillance after being initially tested for a negative result.

ii. Administrative Approvals

The Biosafety Officer administratively approved Dr. Heidi Goodrich-Blair's amendment to registration (#16-442-2) on 7/30/2020 to include updates to personnel, updates to grant information, the addition of *Acinetobacter baumannii*, updates to the biosafety cabinet certification date, and updates to the disinfectant contact time from 10 minutes to 15 minutes. The Biosafety Officer administratively approved Dr. Katherine Morgan's registration (#20-552-2) on 8/13/2020 to use human-derived materials involving the collection of blood, fecal, oral swab, saliva, and cerebrospinal fluid.

iii. Administrative Terminations

None.

iv. Administrative Exemptions:

None.

v. *Accidents, Injuries/Exposures:*
None.

vi. *Laboratory Report (Hamilton)*
None.

vii. *iMedRIS Update, Manual Reviews, & System Orientation (Woofler)*
Jessica reminded the committee that the iMedRIS Form draft still requires review and comments from the committee.

New Business:

None

The meeting adjourned at 4:52 PM, and the next meeting scheduled is for September 16, 2020, via Zoom.