

INSTITUTIONAL BIOSAFETY COMMITTEE MEETING

May 24, 2017

11 AM, Plant Biotechnology Building, Room 410

MEMBERS PRESENT: Chair, Jun Lin; David Bemis, Tamara Chavez-Lindell, Lori Cole, Paul Dalhaimer, Al Iannacone, Brittany Isabell, Elizabeth Fozo, Reggie Millwood, Deidra Mountain, Ling Zhao

Ex-Officio –Linda Hamilton, Brian Ranger, Jessica Woolfer

MEMBERS ABSENT: Doris D'Souza, Reza Hajimorad, Melissa Kennedy, Jae Park

OTHERS PRESENT: Dr. Andrea Lear

Opening:

The meeting was called to order by the Chair, Jun Lin at 11:00 AM. The minutes of April 19, 2017 were reviewed and approved pending correction of typographical errors.

IBC Applications:

#364-17 (Cong Trinh) Recombinant DNA, III-E, 3-year rewrite

One area of Dr. Trinh's research is to engineer cellular metabolisms to create microbial biocatalysts that are capable of producing biofuels and biochemicals from lignocellulosic biomass or organic wastes. Heterologous (non-toxin) genes will be inserted into microbes using standard molecular cloning techniques to create new strains that can perform novel biotransformation. These engineered strains will be characterized for production of chemicals such as alcohols, acids, and esters in 1mL-1L reactor scales. The other area of his research is to develop the ViPaRe (Virulent Pathogen Resistance) technology to inactivate Risk Group 2 pathogens using the CRISPR genome editing. The ViPaRe system expressing guide RNAs and heterologous Cas nuclease (especially when a target pathogen does not possess it) is designed to specifically disrupt vital machinery of the pathogen. The committee voted to table the registration with the recommendation to divide the registration into 2 separate registrations and clarify which vectors and pathogenic hosts will be used.

#422-17 (Jiangang Chen) Infectious Agents, 3-year rewrite

Dr. Chen's registration covered the characteristics of *Clostridium difficile* infection (CDI). CDI occurs when the gut bacteria composition is altered so that bacterial strains in the gut that normally inhibit *C. difficile* outgrowth are suppressed. It is well established that prescription antibiotics can cause alterations of the gut bacteria producing susceptibility to CDI. However, the effect of exposure to commonly used non-prescription antimicrobial compounds found in personal care products, on gut bacterial composition and subsequent pathogenic bacteria outgrowth is poorly understood and the cause of CDI increase in younger populations is still unclear. The proposed studies will narrow this knowledge gap by exploring the outcome and susceptibility of individual to CDI through early life exposure to triclocarban (3,4,4'-trichlorocarbanilide; TCC), an antimicrobial used in personal care products, in a murine model. This compound is detected in human circulation, cord blood and milk. This study is designed to elucidate TCC exposure during defined early life windows (*in utero* and during lactation) to determine the critical period of TCC exposure at physiologically relevant doses on gut composition and subsequent CDI development. The committee voted to table the registration with the recommendation to clarify procedures and study locations.

#449 (Marc Caldwell) Infectious Agents, New registration

Dr. Andrea Lear was present to discuss Dr. Marc Caldwell's research covering the infection model that involves the experimental inoculation of sheep with Zika virus. Zika is in the family Flaviviridae, genus flavivirus. Recent clinical reports of human Zika maternal and fetal infections demonstrate clinical symptoms that parallel those observed with bovine viral diarrhea virus (BVDV) maternal and fetal infections (BVDV Family: Flaviviridae; Genus: Pestivirus). The study will investigate the utility of pregnant and non-pregnant ewes as a possible model for maternal-fetal infections of Zika virus. There are no reports available of Zika virus infections in ruminants and limited reports in other species beyond humans. The committee approved the registration pending information on viral sourcing and the dosage. The source of the viral stock as an 'off-campus collection' and the TCID-determined inoculum titer have both been added to the registration administratively.

Old Business:

Administrative Report

i. Contingencies

Following up on April 19, 2017, IBC meeting, Dr. Todd Reynolds' registration (#245-17) was corrected by the PI to clarify Biosafety Level 2 lab space work procedures with *Candida auris*. Dr. Shawn Campagna's registration (#323-17) is still pending additional strain details as requested by the committee. The Biosafety Office requested an update within 3 months.

ii. Administrative Approvals

None.

iii. Administrative Terminations

Dr. Marc Caldwell's registration (#435) was administratively terminated and bovine diarrheal virus (BVDV) infectious challenges have been combined into registration approval #418-17.

iv. Administrative Exemptions:

None.

v. Accidents, Injuries/Exposures:

None.

vi. Laboratory Report

Linda Hamilton updated the committee on the mid-year results regarding the survey question being asked during audits. The question seeks to obtain researcher opinion regarding the level of disruption experienced by having multiple audits during the year from the individual safety offices. The collective response is that it does not create a burden for researchers to be audited by individual safety groups separately during the year.

iMedRIS Update, Manual Reviews, & System Orientation (Woofter)

Jessica Woofter gave a brief overview of the training manuals.

Committee Appointments – Term Expirations (July 1, 2017)

Brian notified the committee that Al Iannacone and Dr. Bemis will be stepping off the committee at the end of June.

New Business:

Input/Discussion on Development of Self-paced Biosafety Training

Linda notified the committee that we are compiling a self-paced training course that will be incorporated into the CITI platform.

The meeting was adjourned at 12:25 PM. The next meeting is tentatively scheduled for June 21, 2017 in Plant Biotechnology Bldg., Room 410 at 3 pm.