

MINUTES OF THE INSTITUTIONAL BIOSAFETY COMMITTEE MEETING

May 20, 2015

3:00 PM, 410 Plant Biotechnology Building

MEMBERS PRESENT: Jun Lin, Chair; Patti Coan, Vice Chair; Seung Baek, David Bemis, Tamara Chavez-Lindell, Doris D'Souza, Elizabeth Fozo, Al Iannacone, Brittany Isabell, Bonnie Ownley, Deidra Mountain

Ex-Officio – Robert Nobles, Brian Ranger, Mark Smith, Jessica Woofter

MEMBERS ABSENT: Paul Dalhaimer, Melissa Kennedy, Reggie Millwood, Jae Park, Ling Zhao

OTHERS PRESENT: Dr. Shigetoshi Eda, Dr. Oudessa Kerro Dego, Dr. Juan Luis Jurat-Feuntes

Opening:

The meeting was called to order by the Chair, Jun Lin at 3:00 PM.

Minutes of April 15, 2015 were reviewed and approved as written.

IBC Applications:

#276-15 (Shigetoshi Eda) Human Derived Materials & Infectious Agents, 3-year rewrite

Dr. Shigetoshi Eda was present to recap research objectives and answer committee questions regarding his registration that covers two novel detection technologies for the diagnosis of Johne's disease (JD) caused by *Mycobacterium avium* subsp. *paratuberculosis* (MAP). Dr. Eda's research also hopes to develop rapid diagnostics for other diseases such as Crohn's disease, bovine tuberculosis, mastitis, malaria, and Lyme disease. This registration covers approximately 20 Risk Group 2 infectious agents for specificity and sensitivity controls for the detection assays in development. The committee voted to approve the registration pending correction of the bleach shelf life, the Risk Group 2 indication in the list of infectious agents, and the addition of human serum testing dates. Containment was set at BSL-2.

#288-15 (Juan Jurat-Fuentes) Recombinant DNA, III-E, 3-year rewrite

Dr. Jurat-Fuentes was present to recap research objectives and answer committee questions regarding his registration that covers the expression of various insect gut epithelial proteins in 1) common lab strains of *Escherichia coli* for purposes of purification and antisera development, and 2) in various insect cell lines to assess their ability to act as functional receptors for the Cry toxins of *Bacillus thuringiensis*. The committee voted to approve the registration pending the correction of minor typographical errors. Containment was set at BSL-1.

#381-15 (Maria Prado) Recombinant DNA & Infectious Agents, III-D-1-a, 3-year rewrite

Dr. Prado's registration covers the fluorescent labeling of *Streptococcus uberis* and *Escherichia coli* bovine mastitis isolates to determine if biofilm formation contributes to clinical mastitis in dairy cattle. Plasmids carrying the fluorescent mCherry gene will be used to transform *E. coli* or *S. uberis* by electroporation. Cells will be plated on LB agar or other appropriate media containing an antibiotic (tetracycline, gentamycin, erythromycin or kanamycin). The resulting transformants will be confirmed by direct visualization in the IVIS camera to detect the fluorescence and by PCR. Though not currently in progress, similar procedures may be done in *Pasteurella multocida*. The committee voted to approve

the registration pending the correction of minor typographical errors and the addition of Susan Headrick in the personnel list. Containment was set at BSL-1 for the *S. uberis* and *E. coli* procedures and BSL-2 for *P. multocida*.

#430 (Oudessa Kerro Dego) Recombinant DNA & Infectious Agents, III-D-1-a, new registration

Dr. Kerro Dego was present to recap research objectives and answer committee questions regarding his registration that covers the testing and identification of known virulence factors of *Escherichia coli*, *Staphylococcus aureus*, and *Streptococcus uberis* isolates from bovine mastitis using standard and special culture methods and PCR. The research objectives also include co-incubating *E. coli*, *S. aureus*, or *S. uberis* with mammary epithelial cell line (MAC- T cells) and evaluation of bacterial gene expression patterns by real-time PCR or RNA-Sequencing. Both methods will help evaluate the presence of zoonotic and foodborne pathogens in the dairy farm environment. Several other Risk Group 2 pathogens may be used as reference strains for the proposed assays. The committee voted to approve the registration pending the correction of minor typographical errors; the citation of Dr. Raul Almeida's IACUC protocol; the correction of the ATCC strains' source as off-campus collections; the clarification of the antibiotic resistance is some of the listed pathogens, particularly *Staphylococcal* and *Enterococcus* species; correction of Risk Group for *Enterococcus faecalis* (as Risk Group 2); and the clarification of the spill response. There was one abstention. Containment was set at BSL-2.

Old Business:

Administrative Report

Brian Ranger provided the committee with the administrative report. Following up on the April 15, 2015 IBC meeting, Dr. Rebecca Prosser's registration (#286-15) was corrected administratively to include a clarification of tetratoxin (TTX) concentration; the addition of procedures in the technical descriptions; clarification of LD₅₀ species and route of administration; and the identification of Dr. Jim Hall as a secondary individual to be present during procedures involving TTX. Dr. Neal Stewart's registrations (#376-15 & 379-15) were corrected administratively for minor typographical errors; the addition of Reggie Millwood to the personnel list; the clarification of plants being studied in a liquid culture; and the clarification that procedures will be conducted at BSL-1 in B006 (BSL-2-approved lab).

BSL-3 Progress Updates

Brian Ranger gave the committee an update on the progress of the Biosafety Level 3 lab being built in the College of Veterinary Medicine. The flooring is complete, the drywall has been installed, and a ceiling installation is in progress. The certification and completion of the room will probably take a few more months into the new fiscal year. For transparency and reassurance for the College of Veterinary Medicine staff and students, Brian will be drafting up an informational page detailing the technical specifications of the facility, safety mechanisms/procedures, and approval/certification standards that will be in place for this lab. The page will be sent to the IBC for review and comment prior to distribution (nearer the completion of the facility).

iMedRIS Updates

Jessica Woofter reported that there were still no new updates regarding the iMedRIS IBC registration module. Dr. Nobles indicated to the committee that he would get in touch with Patricia Paige about the module's progress.

Teaching Lab Program Updates

Brian Ranger is working with Dr. Jonathan Phipps to get the teaching lab program finalized by the end of the July.

External Audit of Biosafety Program

Brian Ranger notified the committee that an external auditing mechanism was being considered for the IBC. There were several ideas suggested. The Southeastern Biological Safety Association (SEBSA) is a good resource for a collegial exchange or “peer to peer review” program that may only require the reimbursement of travel and per diem. There is also a full accreditation program available through the American Biological Safety Association (ABSA). The committee agreed that a good approach would be 1) an internal self-audit; 2) a peer-to-peer audit; and 3) ABSA accreditation of the program.

Spring 2015 Inspection Progress

Brian notified the committee that Dr. Jonathan Phipps has a few more inspections to perform. No major issues or problems have been noted. However, eye wash documentation and laboratory security was cited in some labs. The Biosafety Office has informed the PIs and are working toward resolving the concerns.

Remote Area Medicine (RAM)

The committee discussed possible liability issues that might arise with training for bloodborne pathogen risks for student volunteers for the Remote Area Medicine (RAM) organization. The committee decided that the training will be available for UT students, but the Office of Biological Safety will not provide training for individuals external to the University of Tennessee.

New Business:

Policy Revisit

Brian addressed the committee about policy revisions for the use of biohazards in research and teaching laboratories. The committee suggested tabling the policy review until the teaching lab framework was ready, which is expected to be by the next meeting.

The meeting was adjourned at 4:30 PM. The next meeting is tentatively scheduled for June 17, 2015 at 3 PM.