MINUTES OF THE INSTITUTIONAL BIOSAFETY COMMITTEE MEETING
May 16, 2012
3 PM, 410 Plant Biotechnology Building

MEMBERS PRESENT:	John Sanseverino, Chair; Chunlei Su, Vice-Chair; David Bemis, Tamara Chavez-Lindell (arrived 3:33 pm), Patti Coan (departed 3:16 pm), Paul Dalhaimer, Al Iannacone, Dan Kestler, Jun Lin, Reggie Millwood, Bonnie Ownley, HCR Wang Ex-Officio – Brian Ranger, Sarah DiFurio
MEMBERS ABSENT:	Doris D'Souza, Mariano Labrador, Ling Zhao
OTHERS PRESENT:	Adam Thompson, Dr. Keith Belli, Dr. Shigetoshi Eda, Dr. Wusheng Liu, Dr. Maria Prado, Dr. Bob Trigiano, Jessica Woofter

Opening:

The meeting was called to order by Chair, John Sanseverino at 3:01 PM.

Minutes of April 18, 2012 were reviewed and approved as written pending minor corrections.

Dr. Bob Trigiano, Dr. Keith Belli, and Brian Ranger gave a brief summary of the Plant Biotech Building (PBB) 3rd floor community freezer and the subsequent movement of animal carcasses by the Center for Wildlife Health, first reported to the Biosafety Office on Wednesday, April 25, 2012. A condensed timeline of events was given, and requirements for more appropriate storage were discussed (i.e. secondary containment, proper labels to identify contents and responsible researcher(s), and emergency plans to relocate any stored materials in the event of future equipment failures). See New Business below for additional details.

IBC Applications:

#276-12 (Shigetoshi Eda) Infectious Agent Registration, 3-year rewrite
Dr. Shigetoshi Eda recapped research objectives and answered committee questions regarding his registration which covered 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 to be used for specificity and sensitivity controls for the detection assays in development. The committee voted to approve the registration pending minor administrative corrections.

#280-12 (Barry Rouse) Infectious Agent Registration, 3-year rewrite
#281-12 (Barry Rouse) Recombinant DNA Registration, III-D (2-a, 4-b), 3-year rewrite
Infectious Agent Registration #280 uses the mouse model to study herpes simplex virus (HSV) induced immunopathology via ocular HSV infection. Recombinant DNA molecules are injected to enhance the immune response to virus infection and reduce the viral loads. Recombinant DNA Registration #281 is an *in vivo* study using viral protein and murine cytokine gene constructs in a mouse model to study immune responses to HSV infection. The goals of this research are 1) to design an approach that can inhibit virus induced ocular immunopathology, and 2) design an efficacious

vaccine against HSV. The committee voted to approve both registrations #280-12 & #281-12 pending minor administrative corrections.

#282-12 (Pam Small) Recombinant DNA Registration, III-D (1-a, 2-a, 4-b), 3-year rewrite
Brian Ranger recapped research objectives and answered committee questions. Dr. Small's research focuses on *Mycobacterium ulcerans* and closely related environmental mycobacteria (*M. liflandii*, *M. marinum*). rDNA protocols are used to: 1) identify and sequence mycobacterial genes and gene fragments that are involved in mycolactone production, a key virulence determinant in the formation of Buruli ulcer, and other genes involved in pathogenesis; 2) generate defined mycolactone-negative mutants via recombinant transposon mutagenesis/knockout; 3) attempt autologous complementation of deleted genes important in mycolactone production; 4) label select strains with a fluorescent marker (RFP, GFP genes); and 5) express mycolactone genes in closely related species (primarily *M. marinum* and *M. fortuitum*). The committee voted to approve the registration as written pending transfer of the registration to Dr. Heather Williamson.

#381 (Maria Prado) Recombinant DNA Registration, III-D-1-a, new registration
Dr. Maria Prado provided the committee with a brief summary of her research objectives to fluorescently label *Streptococcus uberis* and *E. 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 fluorescence and by PCR. The committee approved the registration as written. There was one abstention.

#382 (Neal Stewart) Recombinant DNA Registration, III-E-2-a, new registration
Dr. Wusheng Liu provided the committee with a summary of Dr. Stewart's research involving the development of new biotechnology for targeting genome-modification in plants. Briefly, the research involves using newly discovered transcription activation-like effectors (TALEs), virulence factors secreted by *Xanthomonas* species plant pathogens. Specifically, the DNA binding domains will be engineered to bind to the promoter region of select plant genes leading to targeted activation of gene expression. Additionally, the TALE-specific activation domain will be replaced with an appropriate nuclease (TALENs) that could then be used for genome editing. The committee approved the registration pending minor administrative corrections. There was one abstention.

#383 (Cong Trinh) Recombinant DNA Registration, III-F-6, new registration
Adam Thompson provided the committee with a brief summary of Dr. Trinh's registration involving the use of genomic DNA from *Klebsiella oxytoca* to amplify metabolic genes that would be used to complete a synthetic pathway capable of producing 1-propanol from glycerol in *E. coli*. The committee approved the registration as written.

Old Business:

<u>Administrative Report</u>
Brian Ranger provided the committee with the administrative report. Following up on the April 2012 IBC meeting, Dr. Prosser's registration (#286-12) was updated to include completed training documentation as well as a change in the bleach concentration from 1:10 to 1:5 to be consistent with the cited decontamination reference. Two registrations were administratively terminated (Dr. Becker's #279 & Dr. Eda's #339).

New IBC Registration Form- Draft Review

Brian Ranger submitted a draft of the new IBC registration form for the committee to review. The committee approved the registration form pending corrections. A monthly update will be provided to the committee as to the effectiveness and functionality of the form.

IBC Chair and Membership Review

The committee reviewed the 2012-14 IBC committee appointments. The committee discussed adding a third community representative as an alternate in case Tamara Chavez-Lindell or Al Iannacone would not be available to attend committee meetings. Tamara indicated she would check the availability of her colleagues at the East Tennessee Regional Health Department. Current voting members were reminded to declare their service intentions as soon as possible.

New Business:

Policies and Procedures for IBC-Approved Researchers

Brian Ranger addressed the committee about implementing policies and procedures for ensuring that researchers with IBC approved registrations are following lab biosafety procedures. The committee discussed creating a newsletter or exploring social media avenues to create awareness among the research community.

Plant Biotech Walk-In Freezer/Carcass Storage Concerns

Brian Ranger continued the discussion regarding the Plant Biotech walk-in freezer and reiterated that staff transporting the carcasses (and other affected materials) did not observe universal precautions or proper containment of materials. The resultant mess combined with the smell of decay was distressing to many people in PBB. Additionally, the storage and movement of wild animal carcasses raised several questions about infectious disease risk. In the follow-up to the freezer malfunction, the Biosafety Office was informed that the stored carcasses were collected by or donated to the Center for Wildlife Health (CWH) for the routine dissection/necropsy and/or the preparation of study skins for instructional purposes. Brian read a list of stored species to the committee. CWH faculty had emphasized that all carcasses were deemed healthy by physical examination. Those species that were at-risk reservoirs for rabies had been tested by USDA Wildlife Services or the Knox County Health Department and certified rabies free. A risk assessment of other zoonotic diseases of concerns indicated that the infectious/zoonotic potential of the stored animal carcasses (and blood-contaminated floor/surfaces) was low. In addition to conducting the risk assessment, the Biosafety Office was involved in ensuring that all animal carcasses were removed as quickly as possible, providing guidance on disinfection, and posting general biohazard communication signs on the freezer (until the unit had been thoroughly cleaned/disinfected). Finally, Brian indicated that he had worked with the PBB committee to establish requirements for proper storage of animal carcasses in the future, including: using secondary containment, labeling, and developing contingency plans in the event of equipment failure.

The committee briefly discussed whether teaching and/or diagnostic/environmental samples should be routinely reviewed by the IBC. The current Charter does not extend to those types of materials unless collected for research projects involving infectious agent isolation and/or epidemiological surveillance. The discussion was tabled until expansion of purview could be discussed with UTK/UTIA research administrators.

The committee will reconvene June 20, 2012.

The meeting was adjourned at 4:14 PM.