MINUTES OF THE INSTITUTIONAL BIOSAFETY COMMITTEE MEETING
February 25, 2015
3:00 PM, 118 Plant Biotechnology Building

MEMBERS PRESENT:	Jun Lin, Chair; Seung Baek, David Bemis, Tamara Chavez-Lindell, Paul Dalhaimer, Doris D'Souza, Elizabeth Fozo, Al Iannacone, Melissa Kennedy, Reggie Millwood, Jae Park, Ling Zhao Ex-Officio –Brian Ranger, Jonathan Phipps
MEMBERS ABSENT:	Patti Coan, Deidra Mountain, Bonnie Ownley
OTHERS PRESENT:	Brittany Isabell, Dr. Colleen Jonsson, Jessica Woofter

Opening:

The meeting was called to order by the Chair, Jun Lin at 2:58 PM.

Minutes of January 21, 2014 were reviewed and approved as written.

IBC Applications:

#261-15 (Cynthia Peterson) Recombinant DNA & Human Derived Materials, III-E & III-F, 3-year rewrite
Dr. Peterson's registration covers the generation of recombinant forms of several human proteins involved in cell attachment (e.g. integrins, vitronectin). Briefly, genes encoding these proteins will be mutated and subsequently transformed/expressed in various *E. coli* strains, including BL-21. Expressed protein will be purified, and the structure and function will be characterized via routine biochemical assays. The committee previously tabled this registration pending clarification of the vitronectin source and use; clarification of recombinant hosts; addition of an onsite supervisory investigator to act on behalf of Dr. Peterson; and minor administrative corrections. The committee was satisfied with the revisions and approved the registration pending minor corrections. Containment was set at BSL-1 for recombinant procedures and protein expression, with universal/BSL-2 precautions for handling primary human blood samples.

#270-15 (Robert Trigiano) Recombinant DNA, III-E-2-a, 3-year rewrite
The woody plant genomics program seeks to investigate genetic diversity and population dynamics of ornamental or potential ornamental species using molecular markers (microsatellites or SSRs), which are naturally occurring segments of DNA discovered by sequencing the genome. *Pityopsis ruthii*, will be used as a model organism to study drought, flood and heat tolerance and will also be investigated for genetic diversity and population structure. The study will also include the development of genomic libraries and discovery of markers to study genetic diversity and populations for the downy mildews (oomycetes). Separate projects concerned with thousand canker disease of walnut species will investigate the genetics and population dynamics of the fungal pathogen, *Geosmithia morbida*, and the vector, a bark beetle, using molecular methods. The project may also include determination of virulence of the primary and associated (synergistic) pathogens. Additionally, the lab plans to generate recombinant strains of Pityopsis and dogwood exhibiting preferred horticultural traits. The lab is also working on a project involving muscadine berry rot that seeks to determine which oxidative (phenol

oxidases) and hydrolytic (e.g. cellulases, pectinases) extracellular enzymes are produced by two fungi associated with the disease. Genetic diversity and population dynamics will also be examined using microsatellites developed by sequencing the genomes of these fungi. All transgenic plants will be maintained in the lab and destroyed prior to disposal. The committee approved the registration as written. Containment was set at BSL-1.

#375-15 (Tessa Burch-Smith) Recombinant DNA & Infectious Agents, III-E-2-a, 3-year rewrite
Dr. Tessa Burch-Smith's registration covers the study of plasmodesmata in plant cells. The study involves Agrobacterium-mediated transformation of plants (*Nicotiana benthamiana* and *Arabidopsis thaliana*) with chloroplast genes involved in plasmodesmata formation/function tagged. The chloroplast genes will be fused to genes encoding various fluorescent markers (e.g. GFP, YFP) or affinity purification tags. Additionally, the lab is investigating how viral infection is affected by changes to chloroplast functions. Tobacco rattle virus (TRV) and/or Tobacco mosaic virus (TMV; wild type and GFP-labeled recombinant) will be applied to wild-type or transgenic *N. benthamiana* plants. The movement of the TMV-GFP in infected leaves will then be monitored by UV light from a handheld light source. The committee approved the registration pending clarification of two chloroplast-associated genes and revision of the spill response plan to remove biosafety cabinet spill management (N/A). Containment was set at BL-1 to include adherence to provisions set by the USDA APHIS BRS for transgenic TMV containment.

#428 (Colleen Jonsson) Recombinant DNA, Infectious Agents, & Human Derived Materials, III-D-1-a/2-a/3-a, New registration
Dr. Colleen Jonsson presented the committee with an overview of her registration covering the use of influenza A viruses (IAV; strains H1N1 and H3N2) and Venezuelan equine encephalitis (vaccine strain TC83) to study viral interaction with host cells during entry, replication and assembly. Cell culture models will be used to define host genes that respond to the virus. Similarly, viral genes that are involved in cell entry or combating the host cell will be investigated. Mouse models will be used to determine how these interactions with the host lead to disease. Finally, Dr. Jonsson will attempt to elucidate the putative action of antiviral compounds that target IAV and VEEV and corresponding viral genes/mechanisms that may play a role in resistance to these compounds. The committee approved the registration pending addition of information for a secondary contact in both the Senter and SERF laboratories. Containment was set at BSL-2.

Old Business:

<u>Administrative Report</u>
Brian Ranger provided the committee with the administrative report. Following up on the January 21, 2015 IBC meeting, Dr. Steve Ripp's registrations (#269-15 & 274-15) were corrected administratively for minor typographical errors. Dr. James Blackford's registration (#372-15) was corrected administratively to clarify the following: the procedural scope in the Technical Summary; the needle-less system for DNA vaccine; and provide details on concentrations/volumes of DNA vaccine to be delivered. Dr. Ling Zhao's registration (#344-12) was administratively amended to include the addition of adipose-derived stem cells (murine), resveratrol-containing nanocarriers and 3rd-generation lentiviral-based vectors for various *in vitro* assays. Dr. Jaana Mannik's registration (#427) was administratively approved for the use of primary human tissue (placenta and umbilical cord blood) for isolation of lipids/lipid droplets for various characterization assays. Dr. Steven Ripp's registration (#336-12) is no longer active and any ongoing non-exempt rDNA procedures/hosts are included in his IBC approved registration (#269-15).

Teaching Task Force (Discussion Summary and Proposed Framework)
The Biosafety in Teaching Laboratories Committee meeting was held on February 12, 2015. Dr. Lin gave the committee a summary of the proposed framework for monitoring biological hazards in teaching laboratories. Brian is currently working on a framework for principal investigators using biohazardous agents. Dr. Lin notified the committee that the program will be managed administratively by the Biosafety Office. If deemed necessary by the Biosafety Office, the IBC will be consulted for technical expertise and assistance with risk assessment.

BSL-3 Updates & Procedures Review
An update on the current status of the BSL-3 lab and proposed operating procedures was given. Dr. Jonnson has provided the Biosafety Office several operating procedures. Dr. Jonsson, the Biosafety Office and various facility stakeholders are working on compiling the procedures. A draft should be presented to the committee prior to completion/certification of the lab.

iMedRIS Updates
The iMedRIS module for Biosafety is still in development. The Biosafety Office has been in contact with the lead programmer and should have a beta test model by mid-March.

Interim Non-Affiliated Member
Brian introduced Brittany Isabell from the East Tennessee Regional Health Office. Brittany will be stepping into Tamara Chavez-Lindell's role as a non-affiliated representative for the IBC.

New Business:

Designated Member Review (Risk Assessment Questionnaire)
A sample designated member review risk assessment questionnaire was distributed to the committee. Comments and suggestions were requested by no later than Friday, March 6, 2015.

2014 Annual Report
The committee was notified that a draft of the annual IBC report is pending completion and will be presented at the March 25, 2015 IBC meeting.

CVM – AVMA Accreditation/Preliminary Walkthrough
The committee was informed that the College of Veterinary Medicine will be hosting an accreditation group from the American Veterinary Medical Association during the week of March 2 – 6, 2015 to renew the college's academic accreditation.

The meeting was adjourned at 3:57 PM.

The next meeting has tentatively been scheduled for March 25, 2015 at 3 PM in the Plant Biotechnology Bldg., Room 223.