Institutional Biosafety Committee

Date | Time 11/20/2025 10:00 AM / Meeting called to order by:

Dr. Andrew Hayhurst

Meeting adjourned at 10:36 AM

In Attendance by ZOOM

Member	Expertise	Present (Y/N)
Andrew Hayhurst, Ph.D.	Protein engineering, display systems, BoNT, BSL-2, 4 (chair)	Y for part
Tim Anderson, Ph.D.	Pathogen evolution, malaria & schistosome drug resistances	Y for part
Hsiang Ming (Anthony) Wang, Ph.D.	Director EHS, RO, alternate BSO, BSL-2, 3, 4	Y
Marie-Claire Gauduin, Ph.D.	Recombinant virus vectors, NHP, HIV vaccines, retroviruses, BSL-2, 3	N
Trent Peacock, Ph.D.	BSO, ARO, molecular diagnostics, BSL-2, 3, 4 (vice-chair)	Y
Yan Xiang, Ph.D.	Mechanisms of poxvirus pathogenesis, (community member)	Y
Felicia Ponce	IACUC Manager	Y
Olena Shtanko, Ph.D.	Molecular virology, viral entry, pathogenesis, BSL-2, 3, 4	Y
Davida Smyth, Ph.D.	Microbial epidemiology & genomics, (community member)	N
Diako Ebrahimi, Ph.D.	Viral evolution, HIV, statistical biology	Y
Olga Gonzalez, D.V.M.	Veterinary pathology at ABSL-2, 3, 4, infectious/natural diseases and aging of NHP	N
Jack Dutton, D.V.M.	Veterinarian, ABSL-2, 3, 4, animal models of infectious disease, countermeasure assessment	Y
Kathy Brasky, V.M.D.	Primary veterinarian, ABSL-2, 3, 4, animal models of infectious disease, countermeasure assessment, diverse NHP biology	N
Jason Bowling, M.D.	Human infectious disease medicine, epidemiology, infection prevention	Y
John Choe, M.D.	Occupational health	Y
Greg Ippolito, Ph.D.	Immunology, antibody Repertoires, B-cell biology, vaccines and infectious diseases	Y

Quorum: 12/16 voting members present (75%).

Other Individuals in Attendance: Erica Arreola – recording the Institutional minutes.

Call to order: The IBC Chair called the meeting to order at 10:00 am

Conflicts of Interest: Request was made to members to self-identify if conflicts of interest arise and recuse as necessary.

Approval of Previous Minutes: Minutes from IBC October 2025 meeting reviewed and approved.

Update on Previous Business: All revisions required from the prior meeting were completed and approved.

Committee Membership Update: Luis Martinez-Sobrido has stepped down from the IBC.

Protocols Reviewed:

IBC25-018 - *Modulation of APOBEC3 Gene Expression by Geraniin and Myricitrin in Breast Cell Lines* **(PI: Diako Ebrahimi)**

This application was circulated and approved by email as part of a short-stay fellowship. The project does not involve recombinant DNA work and will use established cell lines with standard BSL-2 laboratory and biosafety cabinet procedures.

Determination: Approved via email circulation.

New IBC Registrations & Amendments for Review

PI Name: Tim Anderson

IBC25-017– Maintenance of the Schistosome Lifecycle

Lay description provided by PI: The laboratory focuses on the genetics of key traits in *Schistosoma* species, including drug resistance, host specificity, and disease virulence. Research involves *S. mansoni* and *S. haematobium*, which together infect approximately 270 million people worldwide and cause significant morbidity and mortality. The full parasite lifecycle is maintained in the laboratory using rodent definitive hosts and aquatic snail intermediate hosts. This protocol addresses the biosafety measures required for safely maintaining the *Schistosoma* lifecycle at Texas Biomed (5-year renewal of the protocol).

Agent characteristics: Human parasitic trematodes – *Schistosoma mansoni* and *Schistosoma haematobium*.

Types of manipulations planned: Infection of freshwater snails from *Biomphalaria* and *Bulinus* genus and infection of rodents with Schistosoma spp. larvae. PET/CT imaging of rodents infected or not by the parasites.

Sources of nucleic acids: N/A

Nature of sequences: N/A

Foreign gene(s) expressed: N/A

Hosts to be used: Freshwater snails from *Biomphalaria* and *Bulinus* genus and rodents (Golden Syrian hamster or mouse).

Biosafety Level and Containment: BSL-2

PI and lab staff trained: PI and Lab staff are trained and experienced in handling these procedures and pathogens, with work conducted safely and without incident.

Occupational Health Representative Review (if applicable):
No additional occupational health requirements were recommended at this time.

Risk Assessment and Discussion:
The committee reviewed the risk assessment as described in the protocol, including agent characteristics (*Schistosoma mansoni* and *Schistosoma haematobium*), routes of exposure, planned manipulations involving freshwater snails and rodents, and proposed biosafety measures. The committee determined that risks are appropriately mitigated through the described containment practices, engineering controls, administrative controls, and PPE.

Applicable section of guidelines: N/A

The following will require clarification: The protocol should mention the PET/CT location if added. Non-absorbent containers should replace Styrofoam boxes; rodent infection site needs confirmation. Isoflurane

spelling should be corrected, confirmation on BSL-2 designation, and the most current edition of the Biosafety in Microbiological and Biomedical Laboratories (BMBL) cited.

Motion: **Approved pending clarifications** | **11 Approve, 0 Against, 0 Abstain** (PI was not present during the discussion of his protocol.)

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PI Name: Luis Martinez-Sobrido

IBC25-019- Studies with VEEV and EEEV

Lay description provided by PI: The laboratory plans to generate wild-type and reporter-expressing recombinant Eastern equine encephalitis virus (EEEV) and Venezuelan equine encephalitis virus (VEEV) to identify vaccines and therapeutics and to study viral biology, including mitochondrial contributions to alphaviruses infection outcomes. Fluorescent- and luciferase-expressing viruses will be used to monitor infections in cultured cells in vitro. No in vivo experiments are currently planned.

Agent characteristics: Eastern equine encephalitis virus (EEEV) strain FL93-939 is a highly virulent select agent, while Venezuelan equine encephalitis virus (VEEV) strain ZPC738 is not. Both viruses are highly infectious via aerosol, though normally transmitted by mosquitoes. Studies will use a recombinant system from a collaborator lab to generate wild-type and reporter-expressing viruses (nLuc, mCherry, GFP) from full-length RNA genomes transcribed by T7 or SP6.

Types of manipulations planned: The work will include transcription of viral genomes, transfection into cell culture, viral amplification, and screening for antivirals and neutralizing antibodies. The study will also investigate the impact on mitochondrial biology, comparing effects with CHIKV, another alphavirus.

Sources of nucleic acids: Plasmids from a collaborator lab.

Nature of sequences: The study will use full-length viral genome–encoding plasmids, both with and without reporter genes.

Foreign gene(s) expressed: Nanoluciferase, GFP and mCherry

Hosts to be used: *In vitro* cultured cells.

Biosafety Level and containment: BSL-3, select agent space located in Texas Biomedical Research Institute Building 23.

PI and lab staff trained: PI and lab staff listed are trained and experienced in handling these procedures and pathogens.

Occupational Health Representative Review (if applicable):

In humans, VEEV and EEEV are responsible of causing Venezuelan equine encephalitis (VEE) and Eastern equine encephalitis's (EEE), respectively.

Before starting this work, individuals will undergo agent-specific training on VEEV and EEV. This will be documented and shared with the Texas Biomed RO or ARO. Likewise, individuals will also receive select agent BSL3 training. Responses to medical emergencies are reviewed annually as part of the Texas Biomedical Research Institute lab-specific training and incident response training. Additionally, all individuals are enrolled in the Texas Biomedical Research Institute's surveillance program which includes an annual medical questionnaire that is reviewed by the Institute's occupational health physician. The physician will decide on suitability for work. Criteria considered in the decision include health status. Per normal select agent BSL-3 practice, any staff member who develops a fever will report to the EHS director and supervisor

Risk Assessment and Discussion:

Easter equine encephalitis virus (EEEV) is the virus responsible of Easter equine encephalitis (EEE), or triple E. Most infection caused by EEEV are asymptomatic but approximately 5% infections progress to severe neuroinvasive disease. Symptoms of EEE include fever, headache, nausea, vomiting, fatigue, muscle pain, and joint pain. Neurological symptoms usually appear a few days after infection and include encephalitis. The fatality case rate of those progressing to severe neuroinvasive disease is 30-75% with young children, elderly, and those with health conditions being at more risk of severe disease. EEEV is transmitted by the bite of an infected mosquito of the Aedes genus. The best way to control EEE is mosquito control and avoid mosquito bites. An EEEV inactivated vaccine is available for horses. This EEEV vaccine is given in combination with Western equine encephalitis (WEE), Venezuelan equine encephalitis (VEE), and tetanus. This inactivated

vaccine is also available for laboratory workers to protect from accidental exposure to these viruses. No specific vaccine is available for humans.

Venezuelan equine encephalitis virus (VEEV) is the virus responsible of Venezuelan equine encephalitis (VEE) that affects equine species, including donkeys, zebras, and horses. Human can also get infected and contract the disease. Common symptoms of VEE include flu-like symptoms, high fever, and headaches. Young and elderly are more susceptible to become ill and die from VEE. VEEV is transmitted by mosquito bite. An inactivated VEEV vaccine containing the C-84 strain is used to immunize horses. Another vaccine, containing the TC-83 strain, is used on humans in military and laboratory positions who risk contracting the virus. The TC-83 strain was generated by passing the virus 83 times through a guinea pig heart cell culture. However, the human vaccine can result in side effects and does not fully immunize the patient. Oxatomide has been shown to have anti-VEEV activity in vitro but has not yet been tested in humans or animal models for the treatment of VEEV.

Select agent BSL3 containment will be used to work with EEEV and VEEV.

Applicable section of NIH guidelines: III-D-1b, III-D-2a, III-D-3-b.

The following will require clarification: Please clarify the scope of the mitochondrial studies, confirm that no select agent genes will be introduced into CHIKV, and address any potential pathogenicity risks. Additional revisions should ensure accurate tables, correct typographical errors, clarify plasmid storage procedures, specify PPE requirements for BSL-3 work, confirm approved disinfectants, and outline inactivation validation for materials leaving Building 23. Please also confirm whether Building 23 has RT-qPCR capabilities.

During the meeting, a power failure in Building 35 caused the Chair to lose connection, and Vice Chair Trent Peacock assumed leadership for the remainder of the session.

Motion: **Revisions required, recirculation requested** | **12 Approve, 0 Against, 0 Abstain**

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PI Name: Victoria Baxter

Amendment to IBC-24-010 - Additions of LASV mRNA Candidate Vaccine

Lay description provided by PI: Addition of a candidate vaccine against Lassa virus (LASV).

Discussion: The Vice Chair inquired whether anyone had direct knowledge of the amendment, and GI confirmed he did: he provided background, explaining that although the amendment had been discussed, nothing had been finalized, and its submission was unexpected. He will follow up with Victoria Baxter. AW confirmed that the amendment pertains to IBC-024-10, one of Ricardo Carrion's former umbrella protocols reassigned after his departure. OS raised concerns about unqualified PIs being listed on Select Agent protocols, particularly for ABSL-4 work. AW explained that the listed PIs are in early training toward Select Agent PI qualification.

Motion: **Amendment tabled - pending further discussion** | **12 Approve, 0 Against, 0 Abstain**

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Meeting Adjourned at 10:36 AM

Next meeting is:

12/18/2025 10:00 AM, Zoom