Creighton UNIVERSITY

Office of the Provost
Research Compliance

CREIGHTON UNIVERSITY
INSTITUTIONAL BIOSAFETY COMMITTEE

IBC MEETING MINUTES

MEETING LOCATION
Zoom (via Invitation)

MEETING DATE and TIME
13-Feb-2026 at 02:00 PM

Institutional Biosafety Committee
2500 California Plaza
Omaha, NE 68178-0125
T: 402.280.2126 | **E:** IBC@creighton.edu
creighton.edu | **creighton.edu/researchservices**

ATTENDANCE

VOTING MEMBERS PRESENT:	
Michael Belshan, PhD Chair, Scientist (Medical Microbiology & Immunology) *Present 2:00 PM-2:47 PM*	**Aurijit Sarkar, PhD** Member, Scientist (Pharmaceutical Sciences) *Present 2:03 PM-2:49 PM*
Richard Goering, PhD Vice Chair, Scientist (Medical Microbiology & Immunology)	**Marisa Zallocchi, PhD** Member, Scientist (Biomedical Sciences)
John Baxter Member, Scientist (Biosafety Officer)	**Graham Cox, PhD** Member, Scientist, Community Representative (Animal Containment Expert)
Nicholas Streck, PhD Member, Scientist (Biomedical Sciences, Virology, & Immunology)	**Christopher Austin, MS** Member, Scientist, Community Representative
Rima El-Herte, PhD Member, Scientist (Infectious Disease)	
STAFF MEMBERS PRESENT:	
Teri Prentis, BA *IRB Administrator*	
Stuart Martens, JD *Legal*	
Shannon Walsh, MS *Research Compliance Auditor*	
DESIGNATED GUESTS:	
Schuyler Chambers, PhD (Chemistry) Principal Investigator, EHS-26-0501 *Present 2:03 PM-2:08 PM*	**Hui Hong, PhD** (Biomedical Sciences) Principal Investigator, EHS-25-0585 *Present 2:10 PM-2:16 PM*

Attended in Person: None – virtual meeting.
Attended via Zoom: All attendees were present via Zoom.

The IBC has 10 voting members. Six members, including at least one community representative, are required to conduct business.

A quorum was met and Dr. Belshan called the meeting to order at 2:02 PM

The Chair asked whether any members of the Committee had a conflict of interest for any item on the meeting agenda. Michael Belshan reported a conflict of interest with EHS-22-0507-03.

The Chair asked whether members of the Committee had received all necessary materials to complete their reviews for this meeting. All members confirmed they received all necessary materials to complete their reviews for this meeting.

The IBC Administrator reviewed the CITI training, documentation, and disclosure requirements for members of the IBC. No members present at this meeting had training, documentation, and/or disclosure deficiencies. All present members were therefore eligible to vote.

The Chair will vote only as necessary to maintain quorum or to break a tie in voting.

REVIEW AND APPROVAL OF PREVIOUS MINUTES

There were no minutes for approval.

REVIEW OF PRIOR BUSINESS

No prior business discussed.

POLICY APPROVALS, ANNOUNCEMENTS, EDUCATION

a. **EHS-22-0522 (Ann Cavanaugh) Exempt continuation without modifications**
   No discussion.
b. **EHS-22-0552 (Jun Xia) Exempt closure due to the PI's departure from the university in 2024**
   No discussion.
c. **EHS-25-0558-02 (Ann Aindow) Non-Exempt modifications approved, personnel change only**
   No discussion.
d. **EHS-25-0551-04 (Alessandra Menezes Campos Staffico) Exempt modifications approved, personnel change only**
   No discussion.
e. **EHS-22-0513-03 (Christopher Destache) Infectious Agents Registration termination**
   No discussion.
f. **Announcement of InfoEd updates**
   The Chair announced that changes to InfoEd will be requested. The Chair encouraged the IBC members to send any suggestions to him directly or bring them up during upcoming meetings. Examples of the changes provided were to include a section for the NIH-required protocol summary, to have separate tabs within the application (nucleic acid, biohazardous materials, etc.), and modify questions about pathogens and facilities.

COMMITTEE REVIEW

Submission Number: EHS-26-0501-01

Title: Biochemical investigation of bacterial biofilm structure, formation, and function

Principal Investigator: Schuyler Chambers

Submission Type: New

Type of Registration: Infectious Agent Registration

Determination: Approved

Determination Date: 13-Feb-2026

Expiration Date: 12-Feb-2029

Total Vote Count	For	Against	Abstained	Absent	Recused
9	8	0	1	0	0

The Chair, Michael Belshan, abstained.

Agents:	E. coli, Bacillus subtilis, S. aureus, P. aeruginosa, Salmonella, Group B Streptococcus, Vibrio cholerae (toxin negative)
Agent Risk Group:	RG-2
NIH Guidelines category of r/s NA research, if applicable:	N/A

Summary: Bacteria commonly form biofilms, which are communities of bacterial cells encased in an extracellular matrix. Both pathogenic and non-pathogenic bacteria can produce biofilms, which can help bacterial communities adhere to surfaces and provide resistance to antibiotic pressures. This project studies the formation of bacterial biofilms formed by BSL-1 and BSL-2 strains of E. coli, B. subtilis, Group B Streptococcus, P. aeruginosa, Vibrio cholerae, Salmonella, and S. aureus. Using bacterial cell culture, we will grow and harvest bacterial biofilms to further isolate and study the molecular structure of matrix biopolymers. We will observe how changes in bacterial growth environment alter biofilm structure and function and we will use macroscopic and microscopic imaging to visualize the dynamic nature of biofilm formation. Additionally, this project will investigate how biofilm production impacts antibiotic susceptibility, in an effort to design more effective antibacterial agents for the prevention of biofilm-associated infections. This work will be conducted in a facility approved for work with both BSL-1 and BSL-2 categorized bacteria and conducted in accordance with safety and disposal protocols for such organisms.

Discussion: While Dr. Chambers was in the room to take questions from the Committee, Dr. Sarkar asked if Dr. Chambers would be making an edit to the submission to include studying staph, for example, as Dr. Chambers mentioned in the submission that studying staph would be included in the second aim of the study. Dr. Chambers reported that the study team is not interested in including the second aim in this submission, as aim 1 is specific to isolating extracellular matrix components.

There was no further discussion after Dr. Chambers left the room. The Committee approved the initial application as submitted.

All required training per institutional policy is complete for all individuals listed on this registration.

Submission Number: EHS-25-0585-01
Title: Tetrodotoxin usage on brain slices
Principal Investigator: Hui Hong
Submission Type: New
Type of Registration: Select Agent or Select Agent Toxin
Determination: Approved with Conditions
Determination Date: 13-Feb-2026
Expiration Date: N/A

Total Vote Count	For	Against	Abstained	Absent	Recused
9	8	0	1	0	0

The Chair, Michael Belshan, abstained.

Agents:	Tetrodotoxin (less than 5 mg)
Agent Risk Group:	N/A
NIH Guidelines category of r/s NA research, if applicable:	N/A

Summary: This project uses tetrodotoxin (TTX) to study how individual neurons function in isolated brain tissue. TTX is a naturally occurring neurotoxin that blocks voltage-gated sodium channels and prevents action potentials. In this research, TTX is used at very low concentrations (0.5-1 µM) as a standard pharmacological tool to isolate specific cellular mechanisms during electrophysiological recordings.

TTX is not infectious and does not replicate. It is chemically stable under laboratory

conditions and is used in small quantities prepared in aqueous solutions. The concentrations employed are well below levels that pose a risk when handled appropriately. TTX does not involve nucleic acids, genetic material, viral vectors, or biological agents capable of infection or transmission.

The experimental work involves acute brain slice preparations obtained from laboratory animals (mice), followed by in vitro electrophysiological recordings. No live animals are exposed to TTX systemically. The toxin is applied only to isolated tissue in a controlled laboratory setting and is disposed of according to institutional chemical safety guidelines.

All procedures involving TTX are conducted by trained personnel using established laboratory safety practices. Work with TTX is performed under Biosafety Level 2 (BSL-2) conditions with appropriate chemical hygiene measures, including proper labeling, storage, and waste disposal. No environmental release is expected.

The use of TTX is essential for accurately measuring neuronal properties by eliminating unwanted electrical activity, allowing clearer interpretation of experimental results. This approach is widely used in neuroscience research and does not increase risk to personnel, the public, or the environment when proper safety protocols are followed.

Discussion: While Dr. Hong was in the room to answer questions from the Committee, Dr. Belshan clarified that Dr. Hong would be the only individual handling the TTX. Dr. Cox asked if the DEA regulates the select agent, TTX. Dr. Hong clarified that the use of more than 500 milligrams of TTX would be considered a select agent. Mr. Baxter stated that Homeland Security is the entity that designates whether TTX is a select agent.

Dr. Sarkar asked Dr. Hong to describe some common points at which aerosolization might take place and if Dr. Hong felt that there was enough instruction in the lab to ensure that any new lab members that may be added would be able to follow the instructions and ensure their safety when around the agent. Dr. Hong stated that detailed biosafety guidelines were included in the submission along with a phone number to call, if necessary.

Dr. Cox stated that a mask is not mentioned as part of the PPE. Dr. Hong stated that she didn't feel that it was necessary to wear a mask due to the small amount being handled and the distance from the solution.

Dr. Hong left the room and the Chair offered the opportunity for discussion.

Mr. Baxter stated that he would work with Dr. Hong on changing the current lab door signage to include more toxin-specific information. Mr. Baxter stated that this change should not hold up approval.

Dr. Zallocchi mentioned the possibility of other individuals working in the lab where the TTX is handled. Mr. Baxter suggested that Dr. Hong train whoever else may be working in the lab to recognize symptoms of TTX exposure. Dr. Belshan agreed and added that the included acknowledgement form should be signed. Dr. Sarkar confirmed that Dr. Hong included in the submission that all individuals working in the lab where TTX is being handled must receive documented training in toxin handling, emergency response, waste procedures, etc.

Dr. Belshan suggested that the Committee issue a conditional approval and that full approval can be issued by the Chair after the modification, including that all individuals in the lab – whether they work with TTX or not – will receive training and sign the acknowledgement form, is made to the protocol.

All required training per institutional policy is complete for all individuals listed on this registration.

Submission Number: EHS-22-0526-05

Title: 224 Mechanisms controlling BubRI regulation of cancer and aging

Principal Investigator: Brian North

Submission Type: Modification

Type of Registration: Non-Exempt Recombinant/Synthetic Nucleic Acid and Infectious Agent

Determination: Approved

Determination Date: 13-Feb-2026

Expiration Date: 12-Feb-2029

Total Vote Count	For	Against	Abstained	Absent	Recused
9	8	0	1	0	0

The Chair, Michael Belshan, abstained.

Agents:	*Citrobacter Rodentium*
Agent Risk Group:	RG-2
NIH Guidelines category of r/s NA research, if applicable:	Section III-D, Section III-E

Summary: Our research program is interested in elucidating the molecular and cellular mechanisms controlling development, tissue function, aging, and disease states with a

primary focus on the heart, intestine, and skin. With respect to the heart, we study development, aging, and heart failure. In the intestine, we study development, intestinal homeostasis, inflammatory bowels diseases, and cancer. In the skin we study aging, wound healing, and cancer. For our studies we use model organisms such as bacteria, insect cells, mammalian cells, C. elegans, and mice in our research projects. Our work is reliant on recombinant DNA including bacterial, insect, and mammalian expression vectors as well as retroviral, lentiviral, and AAV based vectors. All viral based vectors are replication incompetent as they use multi-vector packaging systems deleting essential replication genes ensuring they can enter target cells but cannot reproduce or spread. A majority of cDNAs that our lab uses are of mammalian origin and to the best of our knowledge the genes that we work with, and are encoded in our recombinant DNA, are not toxic or virulent, do not modulate antibiotic susceptibility, and do not pose any environmental risks. We carry out our studies in BSL1 and BLS2 laboratory spaces with certified biosafety cabinets. In addition to recombinant DNA, we also use Citrobacter rodentium to model inflammatory bowel disease in mice. While a pathogen in rodents, C. rodentium is not considered pathogenic in humans. All lab staff are trained in bloodborne pathogens, laboratory safety, hazard communication, and biosafety, as well as handing each of our model systems, recombinant DNA delivery systems, and C. rodentium.

Discussion: Dr. Zallocchi mentioned needing clarification on where the work with the infected animals will take place, whether the manipulation of the animals would take place in the ARF or if the animals would be brought to the lab where the experiment would take place. Dr. Belshan stated that these concerns would fall under the purview of the IACUC rather than the IBC. Ms. Walsh stated that the attending veterinarian reviews SASPs included in IBC submissions.

Dr. Zallocchi stated that the removal of an individual on the personnel list should be removed, as she is aware that the individual no longer works with Dr. North. Dr. Belshan asked if Dr. Zallocchi would like the change to be made prior to issuing approval. Dr. Zallocchi denied the change needing to be made prior to approval.

The Committee gave full approval of the modifications as submitted.

All required training per institutional policy is complete for all individuals listed on this registration.

Submission Number: EHS-22-0532-04

Title: 230 Establishment of a bladder infection model from gram negative bacteria

Principal Investigator: Travis Bourret

Submission Type: Continuation
Type of Registration: Non-Exempt Recombinant/Synthetic Nucleic Acid Registration
Determination: Approved
Determination Date: 13-Feb-2026
Expiration Date: 12-Feb-2029

Total Vote Count	For	Against	Abstained	Absent	Recused
9	8	0	1	0	0

The Chair, Michael Belshan, abstained.

Agents:	Antibiotic resistant *Enterbacteriaceae, Pseudomonas spp., Acinetobacter spp., Stenotrophononas spp., bukholderia spp., Niesseria spp.*
Agent Risk Group:	RG-2
NIH Guidelines category of r/s NA research, if applicable:	Section III-D

Summary: The species Escherichia coli (E. coli) are gram-negative rods that are responsible for roughly 80% of all urinary tract infections (UTIs). These Uropathogenic E. Coli (UPEC) have been shown to cause recurrent infections in women, who are 30 times more likely to contract a UTI compared to men. On top of this, 25% of all sepsis cases start as a UTIs. Among all UPEC the pandemic clone Sequence Type (ST) 131 E. coli is a major concern. It has been found in all continents and has been associated with resistance to common classes of antibiotics including β-lactams and fluoroquinolones. Additionally, this clone has been associated with the spread of the β-lactamase CTX-M-15, an enzyme that inhibits β-lactam drug function. We are planning on establishing a mouse UTI model of infection with E. coli and other gram negative pathogens, to evaluate their fitness. Allowing future experiments to characterize the fitness of ST 131 E. coli to better understand how it is spreading and overcoming both the immune system and drug treatment.

Discussion: The Chair provided the opportunity for discussion. There was no discussion. The Committee approved the continuation as submitted.

All required training per institutional policy is complete for all individuals listed on this registration.

Submission Number: EHS-22-0507-03
Title: 142 HIV Latency Biomarker Discovery
Principal Investigator: Michael Belshan

Submission Type: Continuation

Type of Registration: Non-Exempt Recombinant/Synthetic Nucleic Acid Registration and Infectious Agents

Determination: Approved

Determination Date: 13-Feb-2026

Expiration Date: 12-Feb-2029

Total Vote Count	For	Against	Abstained	Absent	Recused
8	7	0	1	0	1

Michael Belshan was recused due to his conflict of interest with this submission. The designated Chair, Richard Goering, abstained.

Agents:	Human immunodeficiency viruses type 1 and 2; simian immunodeficiency virus; human blood.
Agent Risk Group:	RG-2
NIH Guidelines category of r/s NA research, if applicable:	N/A

Summary: My laboratory studies the replication of human and simian immunodeficiency viruses (HIV and SIV, respectively). The majority of the focus of my work is to understand the interaction of viral components and the host cell environment at the molecular level. Experiments will include the molecular analysis of the replication of wild-type and various mutant HIV and SIV molecular clones (and HIV-derived lentiviral vectors) using previously published techniques. The viruses generated for these experiments will be derived from molecular clones (plasmids) common in the HIV/SIV and lentiviral research fields. The plasmids are pUC- or pBR322-based vectors that contain full or partial length viral sequences and surrounding genomic DNA sequence. The plasmids will typically be propagated in common laboratory strains of E. coli such as DH5□ and JM109 and specialized commercially available strains such as Stbl2 or Stbl3 cells (Invitrogen). Production of the viruses in tissue culture is performed using established HIV culture techniques in BSL-2 and BSL-2+ facilities. Each member of the laboratory is extensively trained in the safe handling of HIV and lentiviral vectors.

Discussion: The designated Chair provided the opportunity for discussion. There was no discussion. The Committee voted to approve the continuation.

All required training per institutional policy is complete for all individuals listed on this registration.

Submission Number: EHS-22-0518-04

Title: 201 Redox regulation of Borrelia spp. Pathogenesis
Principal Investigator: Travis Bourret
Submission Type: Continuation
Type of Registration: Non-Exempt Recombinant/Synthetic Nucleic Acid Registration and Infectious Agent Registration
Determination: Approved
Determination Date: 13-Feb-2026
Expiration Date: 12-Feb-2029

Total Vote Count	For	Against	Abstained	Absent	Recused
9	8	0	1	0	0

The Chair, Michael Belshan, abstained.

Agents:	*Borrelia spp. (B. burgdorferi sensu lato, B. hermsii, B. turicatae, B. recurrentis)*
Agent Risk Group:	RG-2
NIH Guidelines category of r/s NA research, if applicable:	Section III-D

Summary: Borrelia species are typically categorized as members of the Lyme disease group including Borrelia burgdorferi, or as members of the relapsing fever group including Borrelia turicatae. My research is focused on the redox regulation of Borrelia spp. virulence genes during infection of mammalian and arthropod hosts. Well-established animal models exist for Lyme disease spirochetes using Mus musculus mice and the eastern blacklegged deer tick Ixodes scapularis, while relapsing fever spirochetes are typically studied in Mus musculus mice and soft-bodied ticks of the genus Ornithodoros. One of the primary aims of my laboratory's research is to identify the in vivo locales of oxidative and/or nitrosative stress encountered by Lyme group and Relapsing Fever group Borrelia species. Towards this aim we are working to identify the genetic determinants of oxidative and nitrosative stress resistance in Borrelia species by generating strains with mutations in putative oxidative and nitrosative stress resistance genes by allelic exchange, and monitoring their ability to complete the mouse-tick infectious cycle.

Discussion: Dr. Cox pointed out that the original paper application from 2014-2015 was included in this submission. He suggested that the study team should review the original application and make any necessary updates. This would not hold up approval. Dr. Zallocchi stated that she made the same comment regarding the original application being uploaded with this submission.

No other discussion was had regarding the submission. The Committee voted to approve the continuation as submitted.

All required training per institutional policy is complete for all individuals listed on this registration.

Submission Number: EHS-22-0506-03
Title: 137 Mechanisms of prion strain interference
Principal Investigator: Jason Bartz
Submission Type: Continuation
Type of Registration: Infectious Agents Registration
Determination: Approved with Conditions
Determination Date: 13-Feb-2026
Expiration Date: N/A

Total Vote Count	For	Against	Abstained	Absent	Recused
9	8	0	1	0	0

The Chair, Michael Belshan, abstained.

Agents:	Prion
Agent Risk Group:	RG-2
NIH Guidelines category of r/s NA research, if applicable:	N/A

Summary: Prion diseases are a group of fatal neurodegenerative diseases that affect humans (e.g. Creutzfeldt-Jacob disease) and animals (e.g. chronic wasting disease). Prion diseases have long subclinical incubation periods of months to decades with a short clinical phase that is characterized by the onset of behavioral, cognitive or motor deficits. Deposition of the abnormal isoform of the prion protein, PrPSc is pathognomonic for prion diseases and its deposition in the central nervous system (CNS) results in neuronal loss and onset of clinical symptoms. PrPSc is an amyloid protein that is resistant to proteolytic degradation and is postranslationally derived from the protease sensitive non-amyloid host encoded prion protein, PrPC. Outside of the CNS, PrPSc deposition occurs in the peripheral nervous system and secondary lymphoreticular system (LRS) tissues such as spleen and lymph nodes. All prion diseases of animals and a majority of prion diseases in humans are due to prion exposure by a peripheral route (e.g. ingestion). Details of the mechanism(s) of prion transport to the CNS are poorly understood. To better define prion transport to the CNS my lab is investigating three areas of prion pathogenesis. First, we are exploring alternative routes of prion entry into the host in an attempt to better define the possible

routes that prions can gain access to the CNS. Second, we are investigating the role of the prion strain in processing and transport of prions in the host. Finally, we are interested in factors that influence susceptibility of neurons to prion infection and/or replication. The understanding of routes and mechanisms of prion transport will enhance the future development of therapeutic interventions to prevent prion spread to the CNS.

Discussion: Dr. Belshan stated that Dr. Bartz is deficient in his training.

Dr. Cox stated that the acronym “PPG” was used in place of where he believes “PPE” should be used. He also stated that Appendices 3 and 4 appear to be identical, and Appendices 2 and 5 were similar and redundant and could likely be merged.

Dr. Sarkar stated that, in the general procedures of the protocol, it is stated that contact lenses are highly discouraged, and if contact lenses are worn, eye protection must be worn at all times. Dr. Sarkar raised the concern that all lab personnel should wear eye protection for safety. Dr. Belshan stated that the statement was likely included because contact lenses are an increased risk for transmission to the eye, and that the use of eye protection is already included throughout the safety guidelines.

No other discussion was had. The Committee issued conditional approval. Full approval can be issued by the Chair after the required training has been completed.

PUBLIC COMMENTS

There were no public comments.

THIS MEETING ADJOURNED AT 2:49 PM

END OF COMMITTEE REVIEW

Next meeting is tentatively scheduled for 13-Mar-2026 at 2 PM.

END REPORT