University of Nebraska – Lincoln Institutional Biosafety Committee

Minutes of Regular IBC Meeting

Date: June 8th, 2026
Location: Remote via Zoom
Call to Order: 2:32pm
Members Present: T. George (Community Member), K. Heath (Animal SME), A. Hilske (Plant SME), D. Loy (Chair), A. Mitra (Plant SME), N. Sexton (Member), S. Tatineni (Member), M. Wiebe (Member), D. Zinniel (Lab Rep)
Members Absent: H. Blair (BSO), K. O'Neill (Community Member), W. Niu (Member)
Quorum Met: Yes
Ex-Officio Advisors: B. Osthus, R. Wenzl
Others: R. Cederberg, L. Gregurek, A. Jungck, S. Natarajan, E. Schulz
Review of Minutes from 5/11/2026 Meeting:
Motion to approve minutes made by A. Mitra, 2nd by D. Zinniel; all in favor
Declaration of Conflicts of Interest: Nicole Sexton with Sathish Kumar Natarajan protocol

I. PUBLIC SESSION

A. Old Business:

1. Tabled Protocol registrations: None.

2. Protocols with Contingencies Met:

NuRamp ID:	1560
Form ID:	**26354**
TITLE:	**Soybean crossing with Enlist E3 trait**
PI:	**George Graef**
DEPT:	Agronomy and Horticulture
Project Biosafety Level:	BSL-1-P (Plant)
NIH Guidelines reference:	III-E-2
Date of IBC Review:	**3/9/2026**
IBC MOTION:	Approve contingent required training is completed.
IBC ACTION:	***Adopted by vote***

PROTOCOL NOTES:

Date of PI Response:	**5/26/2026**
PI Response:	All required training has been completed.
Additional Comments:	None.

NuRamp ID:	1555
Form ID:	**26320**
TITLE:	**Field-Collected Tick Behavioral Assays**
PI:	**Eileen Hebets**

DEPT:	School of Biological Sciences
Project Biosafety Level:	ACL-2 (Arthropod)
NIH Guidelines reference:	N/A
Date of IBC Review:	**3/9/2026**
IBC MOTION:	Approve contingent more information about the sequencing happening at UNMC, a satisfactory pre-approval survey, and all required training is completed.
IBC ACTION:	***Adopted by vote***
PROTOCOL NOTES:	
Date of PI Response:	**6/1/2026**
PI Response:	All training was completed, additional information was added to the research description, and all follow-ups from the pre-approval survey have been addressed.
Additional Comments:	None.

NuRamp ID:	273
Form ID:	**26300**
TITLE:	**Stress tolerance in rice and wheat**
PI:	**Harkamal Walia**
DEPT:	Agronomy and Horticulture
Project Biosafety Level:	BSL-1, BSL-1-P (Plant)
NIH Guidelines reference:	III-F-8, C-II, III-E, III-E-2, III-E-2-a, III-D-2-a
Date of IBC Review:	**3/9/2026**
IBC MOTION:	Approve contingent required training is completed.
IBC ACTION:	***Adopted by vote***
PROTOCOL NOTES:	
Date of PI Response:	**5/8/2026**
PI Response:	Required training has been completed.
Additional Comments:	None.

NuRamp ID:	619
Form ID:	**26307**
TITLE:	**Infectious Diseases Vaccine Development**
PI:	**Eric Weaver**
DEPT:	Nebraska Center for Virology
Project Biosafety Level:	BSL-2, ABSL-2 (Animal), BSL-2-P (Plant)
NIH Guidelines reference:	III-F-1, III-F-2, III-F-3, III-F-4, III-F-8, C-I, C-II, C-VII, C-VIII, III-E, III-E-1, III-D-1-a, III-D-2-a, III-D-3-a, III-D-4-a, III-D-4-b, III-D-7, III-D-7-a, III-D-7-b
Date of IBC Review:	**4/13/2026**

IBC MOTION:	Approve contingent clarification on inactivation of viruses and if viruses are being used as a vaccine vector or as a wildtype challenge to infect animals.
IBC ACTION:	***Adopted by voice vote***

PROTOCOL NOTES:

Date of PI Response:	**5/6/2026**
PI Response:	The requested edits have been made.
Additional Comments:	PI went through revisions with biosafety office.

B. New Business:

1. New Protocol Registrations: None.

2. Protocol Amendments:

NuRamp ID:	27
Form ID:	**26454**
TITLE:	**Applied Food Safety Microbiology and Risk assessment**
PI:	**Jayne Stratton**
DEPT:	Department of Food Science and Technology
Protocol Biosafety Level:	BSL-2
NIH Guidelines reference:	N/A
IBC MOTION:	Approve with the following contingencies:
Contingencies/Issues:	• Training is completed
Made by:	D. Loy
Seconded by:	N. Sexton
IBC ACTION:	***Approve by vote***
For:	9
Against:	0
Abstained:	0

PROTOCOL NOTES:

Review of Protocol:	The IBC Chair provided an overview of the protocol and opened discussion to the committee.
Summary of Project(s):	Microbiological challenge tests (MCTs) are conducted to evaluate the efficacy of an antimicrobial agent in controlling growth or destruction of foodborne pathogens in food products. For evaluating the bacteriostatic ability of some of the antimicrobial agents, low levels of pathogens, often 10 -100 CFU/g or cm2 are inoculated into/onto the product and growth at different temperatures and different concentrations of the antimicrobial are evaluated.
Changes to the Protocol:	Summary of changes is the inclusion of additional equipment (ozone chamber and high pressure processing equipment) for validation studies added to section IX.

Risk Assessment Considerations:	
Genetic Material:	N/A
Vector system:	N/A
Microbiological agents:	N/A
Organisms:	N/A
OTCC:	N/A
Toxins:	N/A
IRB protocol(s):	☐Yes ☑No **SROC protocol:** ☐Yes ☑No
IACUC Protocol(s):	☐Yes ☑No
Facility/Safety Summary:	The Committee reviewed the description of the facilities to be used and safety procedures and determined the facilities are appropriate for the proposed containment level and work to be conducted.
Safety Concerns:	None
Facility Concerns:	None
Vaccines/Medical:	N/A
Administrative issues:	
Current safety training for staff:	Lab member needs to complete BIO 101 & BIO 201 trainings.
Current equipment certification:	Yes.
Date/Result of last EHS Survey:	Annual / **Findings:**
	3/18/2026 / No findings.
IBC Discussion:	The Committee had no concerns with the proposed changes to the protocol. The biosafety office noted that PI attached all SOPs to section XI of the protocol.

NuRamp ID:	19
Form ID:	**26487**
TITLE:	**Gene regulation by dietary compounds**
PI:	**Janos Zempleni**
DEPT:	**Department of Nutrition and Health Sciences**
Protocol Biosafety Level:	**BSL-2**
NIH Guidelines reference:	III-F-3, III-F-8, C-I, C-VII, C-VIII, III-E, III-E-3, III-D-3-a, III-D-4-a, III-D-7
IBC MOTION:	Approve as written.
Contingencies/Issues:	• None
Made by:	M. Wiebe
Seconded by:	K. Heath
IBC ACTION:	***Approve by vote***
For:	8
Against:	0
Abstained:	1

PROTOCOL NOTES:	
Review of Protocol:	The IBC Chair provided an overview of the protocol and opened discussion to the committee.
Summary of Project(s):	We study the bioavailability and tissues distribution of milk exosomes in mice (and, in the future, humans). We are interested in milk exosomes because of their roles in infant and adult nutrition, and because of their promise for delivering therapeutic cargo to diseased tissues. Within this premise we deplete dietary exosomes to study symptoms of deficiency. We also deliver fluorophore-labeled milk exosomes to mice to assess in which tissues they accumulate. Finally, we administer therapeutics-loaded milk exosomes to sick mice and assess improvement of symptoms.
Changes to the Protocol:	Part I: Updated personnel. Section IV: I added CHO cells to cell cultures. The cells will be transfected with plasmids encoding the variable heavy and light chains in monoclonal antibodies against human and mouse MAGEL2. We want to purify antibodies secreted by CHO cells into culture media instead of purchasing the antibodies from a commercial vendor. Section V: I updated Research Organism Information Section VI: We added four plasmids.
Risk Assessment Considerations:	
Genetic Material:	N/A
Vector system:	Added 4 new antibody plasmids
Microbiological agents:	N/A
Organisms:	N/A
OTCC:	CHO – Chinese Hamster Ovary Cells
Toxins:	N/A
IRB protocol(s):	☑Yes ☐No **SROC protocol:** ☐Yes ☑No
IACUC Protocol(s):	☑Yes ☐No
Facility/Safety Summary:	The Committee reviewed the description of the facilities to be used and safety procedures and determined the facilities are appropriate for the proposed containment level and work to be conducted.
Safety Concerns:	None
Facility Concerns:	None
Vaccines/Medical:	None
Administrative issues:	
Current safety training for staff:	Yes.
Current equipment certification:	Yes.
Date/Result of last EHS Survey:	Annual: 2/20/2026 — **Findings:** No findings.

IBC Discussion:	The Committee had no concerns with the proposed changes to the protocol.

NuRamp ID:	719
Form ID:	**26458**
TITLE:	**The role of fatty acids in placenta, liver, brain, eye and fetal health**
PI:	**Sathish Kumar Natarajan**
DEPT:	**Department of Nutrition and Health Sciences**
Protocol Biosafety Level:	**BSL-2, ABSL-2 (Animal)**
NIH Guidelines reference:	III-F-1, III-F-2, III-F-8, C-II, C-VIII, III-E, III-D-1-a, III-D-2-a, III-D-3-a
IBC MOTION:	Approve with the following contingencies:
Contingencies/Issues:	• Training is completed and a spill kit is available for the lab.
Made by:	D. Zinniel
Seconded by:	M. Wiebe
IBC ACTION:	***Approve by vote***
For:	7
Against:	0
Abstained:	2

PROTOCOL NOTES:

Review of Protocol:	The IBC Chair provided an overview of the protocol and opened discussion to the committee.
Summary of Project(s):	To develop a nutraceutical approach to mitigate liver and placental lipotoxicity that occurs during acute fatty liver of pregnancy and maternal obesity, respectively. Interested in elucidating the role of placental trophoblast infection with Zika virus and the protective role of dietary-palmitoleate supplementation in preventing against Zika virus-induced placental trophoblast apoptosis. Identifying palmitoleate as a cytoprotective nutrient will result in potential nutrient therapy for the prevention of devastating consequences of fetal organ infection with Zika virus.
Changes to the Protocol:	To expand our research project with recombinant strains of Zika virus for our research to test the protective role of palmitoleate against Zika virus infection induced apoptosis in human placental explants, and in animal models of Zika virus infection. In Section IV - 3 new cell lines have been added to the protocol, Caco-2, and 2 skin fibroblast primary cells from Coriell Institute for Medical Research. Updated personnel.
Risk Assessment Considerations:	
Genetic Material:	N/A

Vector system:	N/A
Microbiological agents:	Genetically modified Zika
Organisms:	N/A
OTCC:	Caco-2, Fibroblast from Skin (GM05399), Skin fibroblast (GM05565)
Toxins:	N/A
IRB protocol(s):	☐Yes ☑No **SROC protocol:** ☐Yes ☑No
IACUC Protocol(s):	☑Yes ☑No
Facility/Safety Summary:	The Committee reviewed the description of the facilities to be used and safety procedures and determined the facilities are appropriate for the proposed containment level and work to be conducted.
Safety Concerns:	None
Facility Concerns:	NoneMonitor for symptoms of Zika
Vaccines/Medical:	
Administrative issues:	
Current safety training for staff:	Lab members need to complete BBP, BRC, BIO101 training.
Current equipment certification:	Yes.
Date/Result of last EHS Survey:	Annual: 1/30/2026 — **Findings:** Spill kit not available
IBC Discussion:	The Committee asked PI about the barcoded strain and its application. The Committee confirmed with the PI that the barcoded strain has the same replication characteristics and host range as the corresponding wild-type strain.

NuRamp ID:	434
Form ID:	**26516**
TITLE:	**Environmental fate of microorganisms originating from livestock production systems**
PI:	**Amy Schmidt**
DEPT:	**Biological Systems Engineering**
Protocol Biosafety Level:	**BSL-2, ABSL-2 (Animal), ACL-2 (Arthropod), BSL-2-P (Plant)**
NIH Guidelines reference:	III-E, III-D-1-a
IBC MOTION:	Table pending addressing the following:
Contingencies/Issues:	• More information on infected larvae containment.
Made by:	M. Wiebe
Seconded by:	N. Sexton
IBC ACTION:	***Approve by vote***
For:	9
Against:	0
Abstained:	0

PROTOCOL NOTES:	
Review of Protocol:	The IBC Chair provided an overview of the protocol and opened discussion to the committee.
Summary of Project(s):	Recent sampling and analysis of fly larvae collected from the manure storage pits of swine operations with PRRS-positive animals has not produced positive results for the virus in maggots via PCR analysis. To perform the intended study to determine if the viral material contained in the gut of maggots are infectious when consumed by pigs, we are utilizing a new approach. Fly larvae purchased from Carolina Biological will be placed in a secure container with swine manure solids that have been spiked with PRRS virus. The larvae will be held in the Schmidt Lab (Chase Hall - Room 20) for four days to allow ingestion by the larvae. The larvae will then be used in the intended live swine bioassay to assess infectivity of the virus in maggot guts.
Changes to the Protocol:	II. Research Description- Updated to include summary and details of new project. Section V.-Added Musca domestica larvae. Section VI. Comments or Additional Information- Swine manure solids from pigs in the Animal Science Building on campus will be spiked with PRRS virus and used as a food source for purchased fly larvae to prepare PRRSv-positive larvae to serve as the PRRSV delivery vector for animals under Project 8. Section X. Biological Decontamination and Disposal Methods- Swine manure that has been spiked with PRRS virus for larvae preparation will be autoclaved and then disposed of in the EHS biowaste box in Chase Hall, Room 20.
Risk Assessment Considerations:	
Genetic Material:	N/A
Vector system:	N/A
Microbiological agents:	Porcine Reproductive and Respiratory Syndrome (PRRS) virus
Organisms:	Musca domestica larvae
OTCC:	N/A
Toxins:	N/A
IRB protocol(s):	☐Yes ☑No **SROC protocol:** ☐Yes ☑No
IACUC Protocol(s):	☑Yes ☐No
Facility/Safety Summary:	The Committee reviewed the description of the facilities to be used and safety procedures and determined the safety procedures provided were not sufficient for the proposed work to be conducted.
Safety Concerns:	Virus and larval housing containment. Access to Biosafety Cabinet.

Facility Concerns:	Larval housing containment
Vaccines/Medical:	None.
Administrative issues:	
Current safety training for staff:	A lab member needs to complete Biosafety 100, 101, and 201 training.
Current equipment certification:	Yes.
Date/Result of last EHS Survey:	Annual: 4/8/2026 — **Findings:** Expired bleach.
IBC Discussion:	The Committee had questions regarding the proposed containment methods and wanted clarity on the larval housing and containment of infectious material. The Committee tabled the protocol pending more details on viral containment and recommended purpose-made containers for the infection studies before moving forward with review.

3. Notice of NIH Exempt Protocol Approvals: **None.**

4. Notice of Administratively Approved Amendments:

NuRamp ID:	92
Form ID:	**26480**
TITLE:	**Genetic Manipulation of Mycobacteria**
PI:	**Raul Barletta**
DEPT:	School of Veterinary Medicine and Biomedical Sciences
Project Biosafety Level:	BSL-2, ABSL-2
NIH Guidelines reference:	III-F-1, III-F-2, III-F-3, III-F-4, III-F-5, III-F-6, III-F-7, III-E, III-D-1-a, III-D-2-a
PROTOCOL NOTES:	
IRB protocol:	☐Yes ☑No **SROC protocol:** ☐Yes ☑No
IACUC Protocol:	☑Yes ☐No
Objective of Study:	To study in mycobacteria the mechanism(s) of drug action and resistance, pathogenesis and cell physiology. To accomplish these goals we will introduce recombinant DNA into the listed class II mycobacterial species using specialized vectors. Research experiments will involve the construction of recombinant strains expressing mycobacterial proteins, the isolation of knockout single and multiple mutants, and the complementation of mutant strains to a wild type phenotype. Genes targeted for inactivation include those involved in physiological pathways of peptidoglycan (cell wall component) biosynthesis, salicylate and mycobactin/iron biosynthesis, amino acid metabolism, carbon and nitrogen source utilization, and those involved in cell entry and survival.

Changes to the Protocol:	Modified the Research Description to clarify current research projects linking them to Legacy Protocols. I updated personnel and added two new funding sources (ARD and UCARE). I added Mycobacterium avium subsp. paratuberculosis Mutants, Mycobacterium bovis BCG Mutants, and Mycobacterium smegmatis Mutants to the microorganism section. I added related gene sequences and plasmids to Section VI.
Review comments:	None.

NuRamp ID:	788
Form ID:	**26479**
TITLE:	**Role of noncoding RNAs, protein coding genes, and protein neddylation in cardiovascular and metabolic diseases**
PI:	**Xinghui Sun**
DEPT:	**Department of Biochemistry**
Project Biosafety Level:	**BSL-2, ABSL-2 (Animal)**
NIH Guidelines reference:	III-F-1, III-F-2, III-F-3, III-F-8, C-I, C-VII, C-VIII, III-E, III-E-1, III-E-3, III-D-1-a, III-D-3-a, III-D-3-e, III-D-4-a
PROTOCOL NOTES:	
IRB protocol:	☐Yes ☑No **SROC protocol:** ☐Yes ☑No
IACUC Protocol:	☑Yes ☐No
Objective of Study:	Studying the role of a long noncoding RNA in DNA damage, cellular senescence, and obesity-associated insulin resistance. About four years ago, my group became interested in elucidating the uncharacterized role of matrin-3 in metabolic dysfunction-associated steatotic liver disease (MASLD). Recently, my lab is interested in the role of protein posttranslational modification (protein neddylation) and its interaction with RNA molecules in regulating the vascular endothelium
Changes to the Protocol:	Added a new strain of mice
Review comments:	None.

5. Notice of Minor Modification Forms Approved:

See attached report for a list of all Minor Modification forms received and approved since the last meeting.

6. Notice of Protocol Annual Updates Received:

See the attached report for a list of all Annual Update forms received and approved since the last meeting.

7. Notice of Protocol Terminations:

NuRamp ID:	**467**

TITLE:	**Development of plants that are cold tolerant or have altered chloroplast morphologies.**
PI:	**Rebecca Roston**
DEPT:	Biochemistry
Project Biosafety Level:	**BSL-1, BSL-1-P (Plant)**
Project Termination Date:	5/28/2026
PROTOCOL NOTES:	
IRB protocol(s):	☐Yes ☑No **SROC protocol:** ☐Yes ☑No
IACUC Protocol(s):	☐Yes ☑No
Disposition of rDNA and agents:	All materials destroyed or transferred to other faculty.

C. Other Business:

1. EHS Report

II. ADJOURN

Motion: D. Loy
2nd: K. Heath
Time Adjourned: 3:21pm

IBC Annual Update Form Approvals
since last IBC Meeting

Form ID	Approval Date	IBC Project ID	Project Title	Protocol Status	Form Status	Lead PI	Amendment Needed
UNL-00026504	6/1/2026	UNL-00001447	Expression of hydrolase enzymes in biofuel crop plants.	Approved	Approved	Nicole Buan	**No**
UNL-00026503	5/29/2026	UNL-00000282	Etiology, epidemiology and management of wheat and ornamental plant diseases in Nebraska	Approved	Approved	Stephen Wegulo	**No**
UNL-00026502	5/28/2026	UNL-00000534	Impact of environmental factors on Drosophila development and physiology	Approved	Approved	Kristi Montooth	**No**
UNL-00026499	5/28/2026	UNL-00001516	Characterization of Genes Regulating Photosynthetic Efficiency in Maize and Sorghum	Approved	Approved	Seema Sahay	**No**
UNL-00026495	5/28/2026	UNL-00000014	Neuroinvasive alphaherpes viruses	Approved	Approved	Gary Pickard	**No**
UNL-00026493	5/22/2026	UNL-00000162	Regulation of eukaryotic gene expression	Approved	Approved	Audrey Atkin	**No**
UNL-00026492	5/28/2026	UNL-00001370	Applied soybean research with endemic plant pathogens	Approved	Approved	Dylan Mangel	**No**
UNL-00026488	5/28/2026	UNL-00001441	One Year Duration of Immunity Study in Cats to Demonstrate the Efficacy of a Feline Leukemia Vaccine, Killed Virus	Approved	Approved	Paige Crumley	**No**
UNL-00026483	5/21/2026	UNL-00000087	Microbially-Mediated Metal & Nitrogen Redox Reactions	Approved	Approved	Karrie Weber	**No**

Minor Modification Forms Approved since Last IBC Meeting

Form ID	IBC Project ID	Approval Date	ProjectTitle	Protocol Status	Form Status	Lead PI	Form Changes
UNL-00026498	UNL-00001377	5/28/2026	Evaluating the effect of dietary interventions on human health and the gut microbiome.	Submitted to Biosafety	Approved	Edward Deehan	Personnel
UNL-00026496	UNL-00000201	1/0/1900	Validation of extrusion processing for inactivation of food pathogens	Submitted to Biosafety	Approved	Andreia Bianchini Huebner	Personnel
UNL-00026491	UNL-00001450	5/22/2026	Understanding the Cognitive and Brain Health in Relation to Diet and Dietary Interventions	Submitted to Biosafety	Approved	Doug Schultz	Personnel
UNL-00026486	UNL-00001405	1/0/1900	Improving crop N use efficiency through biotechnology	Approved	Preparation	Jinliang Yang	Personnel
UNL-00026485	UNL-00001338	1/0/1900	Viral Control of Cell Fate	Approved	Preparation	Lindsey Crawford	Personnel
UNL-00026475	UNL-00001372	5/18/2026	Diversity and population structure of fungal plant pathogens	Approved	Approved	Teddy Garcia Aroca	Personnel
UNL-00026473	UNL-00001338	5/8/2026	Viral Control of Cell Fate	Approved	Approved	Lindsey Crawford	Personnel