INSTITUTIONAL BIOSAFETY COMMITTEE
12:06 p.m.
Presidents Conference Room
Montana Hall
Meeting Minutes
June 11, 2025

Members Present:
Jovanka Voyich-Kane, Microbiology & Cell Biology, chair
Amy Robison, Biosafety Officer
Josh Charles, Bozeman Fire Department, Community Member
Alyssa Evans, Microbiology & Cell Biology
Tim Borgogna, Center for Biofilm Engineering
Blake Wiedenheft, Microbiology & Cell Biology
Michael Babcock, IACUC Chair
Jennifer DuBois, Chemistry/Biochemistry
Jerod Skyberg, Microbiology & Cell Biology
Kristen Connolly, Center for Biofilm Engineering
Mike Giroux, Plant Sciences & Plant Pathology

Members Absent:
Kim Center, Community Member
Sandy Sward, Office of Sponsored Programs

Ex-Officio Members Present:
Tammy Lynn, Safety & Risk Management
Nicole Soll, Research Integrity & Compliance
Scott Sanders, Emergency Management
Kirk Lubick, Research Integrity & Compliance
Jaspur Kolar, Bridger Occupational Health & Urgent Care

Ex-Officio Members Absent:
none

Guests:
Ryan Brickman, Safety & Risk Management

I. **Review and approval of IBC Meeting Minutes from May 15, 2025.** The minutes were approved as written.

II. **Announcements from the Chair:** Committee member, Michael Babcock is retiring.

III. **Protocols/Amendments/Renewals/Interim Reviews Approved since May Meeting:**

Protocol #	Referen...	Versi...	Principal Investig...	Title	Protocol Ty...	Approval Date	Expiration Date
2023-472-IBC	472	6	Hatzenpichler, Roland	Human fecal and biopsy samples to study the human gut ...	Amendment	5/30/2025	7/31/2026
2024-538-IBC	538	6	Skyberg, Jerod	Investigating the pathogenesis of Brucella Infection	Amendment	6/4/2025	10/31/2027
2022-79-IBC	79	6	McCalla, Stephanie	Extracting Nucleic Acids from Human Blood Products and C...	Interim Review	5/28/2025	5/31/2026
2023-124-IBC	124	7	DuBois, Jennifer	Understanding how commensal bacteria metabolize iron	Interim Review	5/30/2025	4/30/2026
2023-139-IBC	139	19	Taylor, Matthew	Evaluating the effects of severe respiratory coronavirus infe...	Interim Review	6/6/2025	5/31/2026
2023-251-IBC	251	8	Walk, Heather	Wastewater Surveillance for SARS CoV2 by Archer Biologica...	Interim Review	5/21/2025	6/30/2026
2023-461-IBC	461	3	Joshi, Janak	Effect of protease inhibitors on multiple plant pathogens im...	Interim Review	5/20/2025	6/30/2026
2023-466-IBC	466	5	Deluca, Steve	Investigation of gene regulation during animal developmen...	Interim Review	6/3/2025	6/30/2026
2023-59-IBC	59	13	Pincus, Seth	Infectious disease and biodefense	Interim Review	6/6/2025	8/7/2026
2024-535-IBC	535	4	Bradbery, Amanda	Novel methods to enhance detection of equine gene dopin...	Interim Review	5/19/2025	6/30/2027
2025-568-IBC	568	1	Spangler, Chad	The purpose of this research is to explore the relationships ...	Original	5/29/2025	5/31/2028
2025-109-IBC	109	17	Franklin, Michael	Pseudomonas genetics	Renewal	5/20/2025	5/31/2028
2025-110-IBC	110	7	Giroux, Michael	In vitro functional analysis of wheat starch synthase. Examin...	Renewal	6/2/2025	6/30/2028
2025-123-IBC	123	7	Yeoman, Carl	Exploring Rumen Specimens and Microbial Isolates for Ben...	Renewal	6/9/2025	6/30/2028
2025-126-IBC	126	11	Taylor, Matthew	Alphaherpesvirus spread	Renewal	5/28/2025	5/31/2028

Amendments

2023-472: biopsy samples updated
2024-538: updated personnel

IV. New Business

A. Review of Protocols

Originals
566 Heinemann "Midkine analysis from human saliva, and human cell culture"
Overview: To measure the levels of midkine protein in human saliva samples, which will also involve the toxicity testing of nanoparticles in HEK293 cells.

Biohazardous Agents: none

Recombinant/Synthetic Nucleic Acid Molecules: none

Motion to return for modification and send to DMR upon resubmission. DMR to hold approval until BSC is in place.
Approved 11, Nays 0, Abstention 0
Approved items to be addressed include:

Protocol Objectives section:

- The fate of the magnetic nanoparticles is still a little unclear. The protocol for handling saliva is certainly streamlined and looks straightforward. Where do the nanoparticles end up? Do they get autoclaved or soaked in some disinfectant? If autoclaved, are they suitable for autoclave trash disposal (i.e., no chemical safety issues)?
- Paragraph 5- remove "bacterial strains will be shipped to collaborators as needed" or add information about the Material Transfer Agreement (MTA) that is in place. Approval of this IBC protocol does not substitute for an MTA with each collaborator with which strains are shared. (please reach out to Jess Murdock in the Tech Transfer office to see if a MTA is applicable)
- The use of HEK cells, while now clarified as commercial in origin, is still a little unclear: are they grown in plates (you mentioned well plates and larger volume in petri dishes when met with BSO on 6/11/2025)? Are they handled in a BSC?
- Please confirm with Safety and Risk Management your process for disposing as chemical waste https://www.montana.edu/srm/hazardouswaste/hazardouswaste.html
- Per meeting with BSO on 6/11/2025
  - You expressed interest in using bleach to decontaminate. Please add information here, if applicable, and update section 10.7 Disinfection Procedures.
  - Add description of needle used for bulk collection and update section 10.6 Sharps utilization/Disposal and 10.17 Biohazardous Waste.

Protocol Associations section:

- Have additional students complete required trainings and add to the protocol, if applicable

Biosafety Operating Procedures section:

- Please align lab manual with changes in the protocol for ex: align PPE and disinfectants.
- The IBC committee will require the use of a BSC for handling HEK293 cells before this protocol can be approved. You can purchase a BSC or BSO can assist with finding you one to use on campus.

Renewals
105 Cloninger "Galectin purification and use in cell based assays"
Overview: To obtain recombinant human galectin proteins from E. coli and to use galectins in cancer cell based assays in vitro.

Biohazardous Agents: Escherichia coli cloning; Bacteria
Strains: BL21 (DE3)-pRIL **Biosafety Level:** 2

Recombinant/Synthetic Nucleic Acid Molecules:
Host: BL21(DE3)-pRIL E. coli (Stratagene)
Vector/Plasmid: pET-29b(+)-6×His-Gal7 (Twist Biosciences)
Inserted Nucleic Acids/Genes of Interest: galectin-7
Host: BL21(DE3)-pRIL E. coli (Stratagene)
Vector/Plasmid: pET-29b(+)-6×His-Gal8 (Twist Biosciences)
Inserted Nucleic Acids/Genes of Interest: galectin-8
Host: BL21(DE3)-pRIL E. coli (Stratagene)
Vector/Plasmid: pEXP14-6×His-Gal3
Inserted Nucleic Acids/Genes of Interest: galectin-3

NIH Guideline: Section III-D.

Motion to return for modification and BSO approval upon submission.
Approved 11, Nays 0, Abstention 0
Approved items to be addressed include:

Protocol Objectives section:

- Disinfection Procedures state "30 minutes" for bleach exposure time. Please align. (30 minutes is sufficient, one hour is great! they just need to be the same or alternatively only state the contact time here.)

Personnel section:

- BSO deleted text in Responsibilities/Comments boxes. These are not utilized to ensure compliance in the event responsibilities change.

Recombinant/Synthetic Nucleic Acid Molecules section:

- The stated objective of this protocol is to "obtain recombinant human galectin proteins from E. coli and to use galectins in cancer cell based assays in vitro. Galectins bearing a 6-histidine tag will be expressed in E. coli". How is this being done if not by using recombinant or synthetic nucleic acid? Mark "yes" (if applicable) and answer additional questions, if not explain in Protocol Objectives.

Disinfection Procedures:

- Protocol objectives state "at least one hour" for bleach exposure time. Please align. (30 minutes is sufficient, one hour is great! they just need to be the same or alternatively only state the contact time here.)

115 Halonen “Naegleria fowleri and other pathogenic Free-living Amoeba's in Geothermal areas in Yellowstone and Grand Teton National Parks and other Water sources in Montana”
Overview: To quantitatively and spatially assess N. fowleri in geothermal areas used for soaking and to assess the prevalence of N. fowleri, Acanthamoeba spp. and Balamuthia mandrillaris, in recreational and other water sources in Montana and the surrounding regions.

Biohazardous Agents: Escherichia coli cloning
Strains: ATCC 25922 **Biosafety Level:** 1
Biohazardous Agents: Escherichia coli
Strains: ATCC 11775 **Biosafety Level:** 2
Biohazardous Agents: Naegleria Fowleri
Strains: Carter Strain ATCC 30215 **Biosafety Level:** 2
Biohazardous Agents: Acanthamoeba spp.
Strains: Environmental Isolate **Biosafety Level:** 2
Biohazardous Agents: Balamuthia mandrillaris
Strains: Environmental Isolate **Biosafety Level:** 2
Biohazardous Agents: Naegleria lovaniensis
Strains: Environmental Isolate **Biosafety Level:** 1
Biohazardous Agents: Naegleria australiensis
Strains: Environmental Isolate **Biosafety Level:** 1

Biohazardous Agents: Naegleria gruberi
Strains: Environmental Isolate **Biosafety Level:** 1
Biohazardous Agents: Vermamoeba spp.
Strains: Environmental Isolate **Biosafety Level:** 1

Recombinant/Synthetic Nucleic Acid Molecules: none

Motion to return for modification and send to DMR upon resubmission.
Approved 11, Nays 0, Abstention 0
Approved items to be addressed include:

Protocol Objectives section:

- Remove the 1st paragraph. The 2nd paragraph is enough of an explanation of the overarching goal of the project.
- Step 1: please remove concentration of kanamycin and "at 37 C".
- Section I.A.: I recall that during the Peyton lab in-person inspection, this is where I was informed that the folks collecting and filtering the water in the field were wearing N95 masks, and that this protocol was supposed to be updated to reflect this. The committee does not require the use of a N95 for this protocol. If you disagree, please reach out Tammy Lynn in Safety and Risk Management.
- Throughout the Protocol Objectives, please remove experimental details such as the volume of the conical tubes, temperatures of incubations, incubation times, media ingredients, name brands of equipment. Keep details that describe inactivation like the size of .22um filter and concentration and contact time for decontaminating the biological agents,
- Was an MTA secured with RML? If so, update the statement.
- In the last paragraph, 4 Decontamination…please clarify the following points:
    - What concentration of fresh bleach will be used in collected liquid aspirate?
    - For slide culture- these should be placed in sharps containers. Is it feasible to autoclave sharps containers immediately after each 24 hr experiment?
    - Why is 24 hours selected as the contact time for bleach?
    - If FLA require 24 hr contact time with bleach, is ethanol (conc.?) sufficient to disinfect microscope surfaces?

Personnel section:

- Have personnel complete BSL2 Risk Assessment Baseline

Funding section:

- Update funding

Microorganisms/Infectious Materials section

- Include strain names of N. fowleri being used
- List strain names for unlisted microorganisms/infectious agents to be used

Biosafety Operating Procedures section:

- Attach current Laboratory Specific Biosafety Manual and current versions of PSDS
- Sharps disposal is marked yes in Question 11.17, but this question is marked no and no description of how sharps are used is included. Please align.
- The bleach contact time is not in agreement with language in the protocol objectives. Please reconcile.

382 Martin "Biological Specimen Testing in the Translational Biomarkers Core Laboratory (TBCL)"
Overview: To create a blanket biosafety protocol to allow internal and external human biological samples to be submitted to the Translational Biomarkers Core Laboratory (TBCL) for analytical analyses. MSU Core lab facility offering analytical services

Biohazardous Agents: none

Recombinant/Synthetic Nucleic Acid Molecules: none

Motion to return for modification and send to DMR upon resubmission
Approved 11, Nays 0, Abstention 0
Approved items to be addressed include:

Principal Investigator:

- Complete required training

Protocol Objectives section:

- Please clarify - The first paragraph states that the TBCL will not be involved in the sample collection. The second paragraph states that sample collection will conform to the "collection of human biological specimens policy."

Protocols Associates section:

- Text was deleted in Responsibilities/Comments boxes. These are not utilized to ensure compliance in the event responsibilities change.

Laboratory Biosafety Manual:

- MicroChem is not selected in the biosafety manual. Please update manual and reattach.

Disinfection Procedures:

- "Stock" MicroChem is not a final disinfecting concentration. Please clarify.
- MicroChem is not selected in the biosafety manual. Please update manual.

388 Martin "Biology of Aging Laboratory Molecular Biology Work and Animal Experiments Using LPS"
Overview: to generate a reporter cell line to be used for high throughput screening of small molecules to identify compounds that activate PGC-1a in vitro.

Biohazardous Agents: Escherichia coli cloning
Strains: DH5alpha **Biosafety Level:** 1

Recombinant/Synthetic Nucleic Acid Molecules:
Host: E. coli **Vector/Plasmid:** pGL3-basic
Inserted Nucleic Acids/Genes of Interest: luciferase reporter behind PPARGC1a promoter
Host: E. coli **Vector/Plasmid:** pcDNA3.1
Inserted Nucleic Acids/Genes of Interest: none
Host: Mouse cell line (SIMA9) **Vector/Plasmid:** pGL3; pcDNA3.1
Inserted Nucleic Acids/Genes of Interest: luciferase

NIH Guideline: Section III-F, III-D.

Motion to return for modification and BSO approval upon submission.
Approved 11, Nays 0, Abstention 0
Approved items to be addressed include:

Disinfectants to be Used in the ARC:

- I think the ready-to-use Rescue has a contact time of 1 minute. Please check with Kerri to complete the concentration and contact time parameters.

Laboratory Biosafety Manual:

- MicroChem is not selected in the biosafety manual. Please update manual and reattach.

Disinfection Procedures:

- "Stock" MicroChem is not a final disinfecting concentration. Please clarify.
- MicroChem is not selected in the biosafety manual. Please update manual.

Interim Reviews
None

Amendments
19 Fischer "Cereal and Camelina Quality and Biochemistry"
Overview: to generate a reporter cell line to be used for high throughput screening of small molecules

to identify compounds that activate PGC-1a in vitro.

Biohazardous Agents: Saccharomyces cerevisiae
Strains: MaV203 (for two hybrid screening) **Biosafety Level:** 1
Biohazardous Agents: Escherichia coli cloning
Strains: XL-1 Blue; XL-10 Gold; BL21 **Biosafety Level:** 1
Biohazardous Agents: Pichia pastoris
Strains: GS115, KM71 (for protein expression/production) **Biosafety Level:** 1

Recombinant/Synthetic Nucleic Acid Molecules:
Host: E. coli **Vector/Plasmid:** All E. coli vectors
Inserted Nucleic Acids/Genes of Interest: Barley and camelina proteases; camelina transcription factors
Host: Pichia pastoris **Vector/Plasmid:** All pPIC vectors
Inserted Nucleic Acids/Genes of Interest: Barley and camelina proteases; camelina transcription factors
Host: S. cerevisiae **Vector/Plasmid:** pDEST™32, pDEST™22, and pEXP-AD502
Inserted Nucleic Acids/Genes of Interest: Barley and camelina proteases; camelina transcription factors
Host: Hordeum vulgare (Barley) **Vector/Plasmid:** RC8356A (WP-002429) HvPap6-8-12-14 CRISPR
Inserted Nucleic Acids/Genes of Interest: CRISPR-Cas9 machinery Four guide RNAs

NIH Guideline: Section III-E, III-D.

Motion to return for modification and BSO approval upon submission.
Approved 11, Nays 0, Abstention 0
Approved items to be addressed include:

Protocol Objectives:

- MTA is not needed for Wisconsin Crop Innovation Center, but a service agreement is needed, service agreement from WCIC reads much like an MTA. Please verify that there is an MSU tech transfer approved signed service agreement.
- Seed storage area described as PGC microcontaintment. Please give a physical location of a location that has access restricted to those on the protocol.
- Selfed plants that do not contain the transgene (Cas9/neomycin resistance) locus would still need to be treated as transgenic unless ruled otherwise by MSU and USDA-APHIS. Please remove "allowing us to treat them like plants obtained through chemical mutagenesis (i.e., no longer transgenic)" and/or clarify that you will obtain permission from APHIS to not treat the plants as transgenic.

V. Unfinished Business

- Safety and Risk Management
  - Exposure Control Plan – is complete, will work with BSO on research section
- Biosafety Officer Update
  - Service Animals in Research and BSL2 Teaching Labs Policy – first read – header changed
    - Approved
  - Transporting Infected Animals Policy – first read – header changed, wording updated
    - Approved
- Program Manager Update
  - NIH transparency update – meeting minutes to be posted to the website starting with June 2025 meeting

The meeting was adjourned at 1:23 p.m.