Marquette University
Institutional Biosafety Committee

MINUTES

IBC Member Roster: Mr. Austin Fritsch (Voting Contact), Mr. Dennis Daye (Member), Dr. Michael Schlappi (Plant Expert), Dr. Murray Blackmore (Chair, Animal Expert), Dr. Krassimira R. Hristova (Member), Dr. Edward M. Blumenthal (Member, Vice Chair), Dr. M. Behnam Ghasemzadeh (Animal Expert), Mr. Jason M. Keaton (Biosafety Officer), Dr. Allison E. Reeme (Member), Mr. Eli Colina (Local Non-Affiliated), Ms. Rebecca A. Seevers (Local Non-Affiliated), Mr. Jerome Donohoe

Present: Dr. Murray Blackmore (Chair, Animal Expert), Dr. Edward M. Blumenthal (Member, Vice Chair), Mr. Dennis Daye (Member), Mr. Jason M. Keaton (Biosafety Officer), Dr. Allison E. Reeme (Member), Mr. Eli Colina (Local Non-Affiliated), Ms. Rebecca A. Seevers (Local Non-Affiliated), Mr. Jerome Donohoe

Absent: Mr. Austin Fritsch (Voting Contact), Dr. Michael Schlappi (Plant Expert), Dr. Krassimira R. Hristova (Member), Dr. M. Behnam Ghasemzadeh (Animal Expert)

Guests: Dr. Yaroslav Savchuk (Alex Savtchouk), Dr. Marieke Gilmartin

I. **MEETING DATE:** Tuesday, June 17th, 2025
II. **MEETING TYPE:** In-Person
III. **MEETING STATUS:** Open
IV. **QUORUM:** Present
V. **CALL TO ORDER:** 1:03 pm
VI. **CONFLICTS OF INTEREST:** No conflicts of interest were observed.
VII. **ANNOUNCEMENTS:** N/A
VIII. **REVIEW MEETING MINUTES**
- **A.** May 2025 Meeting Minutes
  - **i.** Requested revisions:
    - Page 1: Change “cultural” to “culture”
    - Page 5: Change “reviewer” to “reviewed”
  - **ii.** Motion to approve the meeting minutes as revised.
    - Approve: 8, Deny: 0, Abstain: 0
    - Conflicts of interest: N/A

IX. **NEW PROTOCOL(S)**
- **A.** N/A

X. **THREE YEAR RENEWAL(S)**
- **A.** Alex Savtchouk, BISC; #5066: “Visualizing 3D cellular activity using 2-photon microscopy in rodent brains (renewal)”
  - **i.** Project overview:

IBC Approval Date: 8/15/25
Date Posted: 8/21/25

- The protocol is being submitted for a triennial review and involves the use of commercially available adeno associated viruses (AAVs) in mice. The utilized AAVs will be used to express fluorophores in cells of interest and to modify intracellular signaling. They will deliver effector genes that encode for biosensors, actuators, and fluorescent proteins. The nucleic acid sequences carried by each utilized AAV originate from a variety of sources, both natural and synthetic. For example, AAVs encoding green fluorescent protein (GFP) include a gene originally derived from jellyfish. These viruses pose minimal danger to humans, animals, and the environment due to their low immunogenicity in humans and animals, replication incompetence, and susceptibility to inactivation by 10% bleach. For this reason, they can be handled under BSL-1 conditions.

ii. Discussion:

- **Training verification:** The training of the listed personnel was verified. All listed individuals completed the required biosafety 101 training.
- **Applicable section(s) of the NIH Guidelines:** The committee determined that sections III-F-8 Appendix C-VII, III-F-8 Appendix C-VIII, III-D-4, and III-E-3 are applicable.
- **Virus aliquoting procedure:** The committee inquired about the PI's AAV aliquoting procedure. The PI reported that upon arrival on campus, the 100–200 µL AAV stock vials are aliquoted into 3–5 µL volumes using filtered pipette tips. The aliquots are then stored in a freezer for future use. The PI noted that he is solely responsible for aliquoting, and that the procedure is conducted on a benchtop which is disinfected with bleach following use. Additionally, all contaminated materials are treated with bleach prior to disposal.
- **Waste Disposal:** The committee reviewed appropriate waste disposal procedures with the PI. It was clarified that contaminated sharps must be placed in an approved sharps container and disposed of without bleach exposure. Additionally, non-sharp bleach-treated waste may be disposed of via the sanitary sewer.
- **Sharps Container:** The committee inquired about the location of the sharps container and determined it as appropriate.
- **Animal Use:** The committee inquired about the length of time animals are maintained following AAV administration. The PI indicated that animals are maintained for several months after the injection to allow for experimental procedures.

iii. Required changes:

- **"Registration Categories" Section**
  - Add a reference to III-F-8; Appendix C-VII and C-VIII, to reflect the Purchase/Transfer and Breeding of transgenic rodents, respectively.

- **"Viral Vectors" Section**
  - Modify the section to include description of serotypes, promoters, and any other regulatory elements which may appear in the Addgene AAV names.
- **"Project Details" Section**
  - Revise the waste disposal procedure to specify that sharps will not be exposed to bleach, and that they will be placed directly into a sharps container which will be autoclaved prior to final disposal.
  - Clarify the frequency of biohazardous material disposal.
  - Change "plastic bag or a cardboard box" to "a closeable secondary container such as a falcon tube." Additionally, make sure to add a biohazard sticker on the secondary container, and add language conveying that the container will be decontaminated after each use.

iv. Motion to send Dr. Savtchouk a list of required changes to later be reviewed by a designated reviewer

- Approve: 8, Deny: 0, Abstain: 0
- Conflicts of interest: None

B. Marieke Gilmartin, BISC; #5036: "Neuromodulation of episodic memory systems in aversive learning and cognitive function"

i. Project overview:

- The project is being submitted for triennial review and is focused on advancing the understanding of neural circuits and activity that support memory formation. Transgenic rats as well as AAVs will be utilized to achieve this goal. The AAVs will be administered to the rats via localized injection, and will carry effector genes that encode molecular actuators, such as genetically engineered ion channels and modified G-protein-coupled receptors. These genetic tools will enable precise manipulation of neural activity in the host animals. The nucleic acid sequences carried by the AAVs originate from both natural and synthetic sources. Specifically, the sequences encoding modified G-protein-coupled receptors are engineered versions of human receptors, such as the muscarinic receptor, while those encoding opsins like channelrhodopsin and archaerhodopsin are derived from microbial sources. These viruses pose minimal danger to humans, animals, and the environment due to their non-pathogenic and non-hazardous nature, replication incompetence, and susceptibility to inactivation by 10% bleach. For this reason, they can be handled under BSL-1 conditions.

ii. Discussion:

- **Training verification:** The training of the listed personnel was verified. All listed individuals completed the required biosafety 101 training.

- **Applicable section(s) of the NIH Guidelines:** The committee determined that sections III-F-8 Appendix C-VII, III-F-8 Appendix C-VIII, III-D-4, and III-E-1 are applicable.
- **Waste Disposal:** The committee discussed the waste disposal procedures. They were informed that waste is removed once the waste container is full, or shortly after disposal if no additional biohazardous work is scheduled for the near future.

iii. Required changes:

- **"Registration Categories" Section**
  - Add a reference to III-F-8; Appendix C-VII and C-VIII, to reflect the Purchase/Transfer and Breeding of transgenic rodents, respectively.
- **"Project Details" Section**
  - Revise the Hamilton syringe disinfection procedures by replacing ethanol with bleach, and specify the bleach contact time as 10 minutes.
  - Clarify the frequency of biohazardous material disposal.
  - Include the contact time of at least 10 minutes for disinfection procedures utilizing 10% bleach.
  - Modify spill response procedures to clarify that bleach-soaked absorbent materials will be disposed of in the general waste stream, as they are no longer infections.
- **"Attachments" Section**
  - Attach the virus handling SOP mentioned in the research procedures section.

iv. Motion to send Dr. Gilmartin a list of required changes to later be reviewed by a designated reviewer

- Approve: 8, Deny: 0, Abstain: 0
- Conflicts of interest: None

XI. MODIFICATION(S)

A. N/A

XII. DESIGNATED REVIEW(S)

A. New protocol(s)

i. N/A

B. Three year renewal(s)

i. Martin St. Maurice, BIOL; #5010: "Structure and function of biotin-dependent enzymes"

C. Modification(s)

i. Jennifer Evans, BISC; #4529: "Circadian timekeeping in rodents"

XIII. TERMINATION(S)

A. N/A

XIV. ADDITIONAL BUSINESS

A. **Meeting Minutes and Public Access Policy** – The committee reviewed the changes to the policy. The meeting minutes and redaction process was also discussed, as was the appropriateness of the word “redaction.”

XV. TRAINING

A. **FAQs About IBC Meetings and Minutes** – The committee reviewed information captured in the NIH FAQs About IBC Meetings and Minutes webpage to ensure that the appropriate information pertaining to protocol reviews is being captured in the IBC meeting minutes.

XVI. PUBLIC COMMENTS

A. N/A

XVII. INSPECTIONS/ONGOING OVERSIGHT

A. N/A

XVIII. ADJOURN 2:08 PM