

**Marquette University
Office of Research Compliance
Institutional Biosafety Committee (IBC)**

MINUTES

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

Present: Austin Fritsch (Voting Contact), Michael Schlappi (Plant Expert), Murray Blackmore (Chair, Animal Expert), Edward M. Blumenthal (Member, Vice Chair), M. Behnam Ghasemzadeh (Animal Expert), Jason M. Keaton (Biosafety Officer), Allison E. Reeme (Member), Jerome Donohoe (Non-Affiliated), Alicja Czyz (Non-Voting Member)

Absent: Dennis Daye (Member), Eli Colina (Non-Affiliated), Rebecca A. Seevers (Non-Affiliated)

Guests: N/A

- I. MEETING DATE:** July 17th, 2026
- II. MEETING TYPE:** In-Person
- III. MEETING STATUS:** Open
- IV. QUORUM:** Present
- V. CALL TO ORDER:** 10:08 AM
- VI. CONFLICT OF INTEREST:** A conflict of interest involving Dr. Blumenthal was observed in relation to registration #4456.
- VII. ANNOUNCEMENTS**
 - A.** N/A
- VIII. REVIEW MEETING MINUTES**
 - A.** June 19, 2026 Meeting Minutes
 - i.** Motion to approve the minutes as written:
 - Approve: 5, Deny: 0, Abstain: 3
- IX. NEW REGISTRATION(S)**
 - A.** N/A
- X. THREE YEAR RENEWAL(S)**
 - A.** Edward Blumenthal, BIOL; #4456: "Regulation of epithelial barrier formation in *Drosophila*"
 - i.** **Project Overview:** The registration covers research using transgenic and genetically modified *Drosophila melanogaster* (fruit flies) to investigate the

role of the drop-dead gene in epithelial barrier formation, nervous system integrity, growth, development, and host-microbiome interactions. The work includes maintenance and breeding of transgenic fly stocks; lifespan and behavioral studies; microscopy, immunostaining, tissue dissection, fixation, and fluorescence analyses; RNA and DNA extraction for gene expression and microbial population studies; cryosectioning and mass spectrometry analyses of lipids and glycans; and the generation and characterization of axenic flies. The transgenic flies include genetic components commonly used in *Drosophila* research, including genes encoding the yeast GAL4 and GAL80 transcription factors, genes under the control of the yeast UAS promoter, the bacterial lacZ gene, FLP transposase, and genes encoding fluorescent reporter proteins, including GFP, RFP, Tomato, mCherry, Venus, Stinger, dsRed, and Cerulean. The renewal submission adds procedures for generating axenic flies through sterile culturing techniques and for culturing naturally occurring fly-associated bacteria to verify microbiome depletion. Although the specific bacterial species that may be cultured cannot be fully identified in advance, the fruit fly gut microbiota typically consists of fewer than 10 species and is generally dominated by bacteria in the genera *Acetobacter*, *Lactiplantibacillus*, and *Levilactobacillus*. No human pathogenic bacteria have been obtained from fruit fly guts in the described assays, and the proposed research is not expected to pose a hazard to humans. Apart from the work involving axenic flies, all work with live fruit flies will be conducted in a designated space equipped with fly traps and physical barriers to prevent accidental environmental release. Work with axenic flies will be conducted in a separate space because a sterile hood is required and is not available in the primary fly room. Secondary containment will be used when flies are transported between spaces to reduce the risk of environmental release. Following completion of the described work, flies will be euthanized by freezing or immersion in corn oil and disposed of as biohazardous waste. No gene drive research will be conducted under this registration, and all research activities will be conducted using BSL-1 practices.

ii. **Discussion:**

- **Training Verification:** The committee reviewed the training of the personnel listed and determined that everyone is appropriately trained.
- **Applicable section(s) of the NIH Guidelines:** It was determined that the proposed research falls under sections III-F-1, III-F-2, II-F-5, III-F-8 Appendix C-II, and III-D-4 of the NIH Guidelines.
- **Current Containment and Environmental Release Prevention:** Significant discussion focused on fruit fly containment and prevention of environmental release. The investigator explained that at present, laboratory doors remain closed, fly traps are

maintained in the laboratory, and all fruit flies are ultimately killed and disposed of through biohazard waste procedures.

- **Axenic Fly Work Containment:** The committee discussed the containment of the axenic fruit fly work.
 - **Transportation Containment Practices:** It was noted that the axenic fruit fly experiments require sterile transfers that cannot be performed in the primary laboratory due to the lack of a sterile hood within space. As a result, live fruit flies must occasionally be transported from the laboratory to a sterile hood elsewhere in the building. The investigator stated that fruit flies will be placed in secondary containment during transport and that transfers will occur within the hood environment, with the anticipated risk of escape considered minimal.
 - **Additional Release Mitigation and Monitoring Practices:** Committee members considered whether the transport and transfer activities could become a weak point in containment, and proposed the implementation of fly traps in all rooms where transfers would occur. It was noted that the traps could serve both as containment measures and a means of monitoring whether escapes were occurring during transfers. The committee also discussed arthropod containment best practices that include installing mesh screens over potential escape routes such as exhaust vents and drains. Members noted that arthropod containment guidance often recommends screening exhaust pathways to prevent escaped insects from moving through building ventilation systems. Questions were raised regarding mesh size, effects on airflow, and whether implementation would require consultation with facilities personnel. The discussion broadened into a larger institutional effort to develop arthropod containment guidance as insect-based research becomes more common. It was also indicated that enhanced containment measures, including investigation of screening options, were being considered more broadly for campus laboratories.
- **Consequences of Environmental Release:** Committee members specifically considered the consequences of fruit fly escape. The investigator stated that escaped flies would encounter little to no food source within building spaces and were unlikely to survive for long periods. Members also discussed whether any of the genetic modifications could increase environmental fitness or survivability, with no such enhancements identified in the protocol discussion.

iii. **Requested Revisions:**

- **“Project Details” Section**

- Remove or reconsider the division between exempt and non-exempt activities as some of the listed activities appear inconsistent with the categorization presented.
- Provide an estimate of the maximum number of drosophilae housed at the laboratory at any given time.
- Clarify the concentration of bleach that will be utilized to wash the fruit fly eggs.
- Clarify that fruit fly eggs are washed with bleach followed by water.
- Specify that “MRS plates” refers to De Man–Rogosa–Sharpe agar plates, and describe it using more accessible language for broader committee understanding.
- Specify that “LB” refers to Lysogeny Broth and describe it using more accessible language for broader committee understanding.
- Clarify shipping activities involving DNA constructs and ensure protocol language accurately reflects possible shipment of DNA for off-site services.
- Specify the type of sterile hood that will be used for fly transfers, including clarification that a laminar-flow hood is being used rather than relying on the general term “sterile hood.”
- Include a statement conveying that fly traps will be deployed in the room housing the laminar-flow hood to reduce the risk of environmental release of fruit flies.

iv. Motion to conditionally approved the registration, subject to revision by the designated reviewer:

- Approve: 7, Deny: 0, Abstain: 0
- Conflicts of interest: 1
 - A conflict of interest was observed. The conflict arose due to Dr. Blumenthal’s involvement in the project associated with registration #4456. Dr. Blumenthal recused himself from the discussion and vote associated with the registration and left the meeting at 10:35 AM. Quorum was maintained during his absence.

XI. MODIFICATION(S)

A. N/A

XII. DESIGNATED REVIEW(S)

A. New registration(s)

i. N/A

B. Three year renewal(s)

i. Krassimira Hristova, BIOL; #5396: "Phage treatment and disinfection of microbial biofilms"

- C. Modification(s)
 - i. Jennifer Evans, BISC; #4529: "Circadian timekeeping in rodents"
- XIII. **TERMINATION(S)**
 - A. N/A
- XIV. **ADDITIONAL BUSINESS**
 - A. N/A
- XV. **TRAINING**
 - A. N/A
- XVI. **PUBLIC COMMENTS**
 - A. N/A
- XVII. **INSPECTIONS/ONGOING OVERSIGHT**
 - A. N/A
- XVIII. **ADJOURN** 10:53 AM



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