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 (Non-Affiliated), Ms. Rebecca A. Seevers (Local Non-Affiliated), Mr. Jerome Donohoe (Non-Affiliated)

Present: Mr. Austin Fritsch (Voting Contact), Mr. Dennis Daye (Member), 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 (Non-Affiliated), Mr. Jerome Donohoe (Non-Affiliated)

Absent: Ms. Rebecca A. Seevers (Non-Affiliated), Dr. Michael Schlappi (Plant Expert)
Guests: Dr. Chelsea Cook

I. **MEETING DATE:** Tuesday, July 22nd, 2025
II. **MEETING TYPE:** In-Person
III. **MEETING STATUS:** Open
IV. **QUORUM:** Present
V. **CALL TO ORDER:** 10:01 AM
VI. **CONFLICTS OF INTEREST:** No conflicts of interest were observed.
VII. **ANNOUNCEMENTS:** N/A
VIII. **REVIEW MEETING MINUTES**
- **A.** N/A

IX. **NEW PROTOCOL(S)**
- **A.** Chelsea Cook, BIOL; #5090: “Using RNA interference tools for identifying mechanisms of temperature sensation in honey bees”
  - **i.** Project overview: The project aims to utilize the gene-disrupting technology known as RNA interference (RNAi) to investigate the role of transient receptor potential (TRP) channels in the fanning behavior exhibited by honeybees. RNAi sequences will be administered to bees via spraying, feeding, or injection to specifically target and temporarily block the gene expression of the honeybee TRP channels to determine their role in the fanning behavior. No human homologs exist for genetic sequences utilized in this project. The utilized materials are neither virulent nor pathogenic, and degrade quickly in the environment. Once administered to the bees, the material degrades within 72 hours. For

IBC Approval Date: 9/11/25
Date Posted: 9/26/25

these reasons, the proposed research poses a low environmental concern and can be conducted 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 section III-F-1 is applicable.
- **Bee Location:** The location of the bee colonies as well as the procedural spaces in which the bees will be manipulated was shared with the committee.
- **RNAi Administration:** The administration of RNAi was discussed. It was noted that administration methods were selected to allow for the testing of individual bees as well as the whole colony.
- **Registration Modification:** The registration modification process was explained to the PI.
- **Training Records:** The committee discussed the acceptable means of storing training records. It was determined that training records may be stored online.
- **Hazard Control:** The committee reviewed the measures taken to protect those working with bees. The personal protective equipment (PPE) and implemented engineering controls were reviewed. It was also noted that the lab is equipped with epi pens which may be deployed in instances during which the hazard controls fail and the stung individual experiences anaphylaxis.
- **Allergy Testing:** The committee discussed the necessity and usefulness of mandated allergy testing for those working with bees. It was determined that allergy testing of staff working with bees will not be mandated at this time.
- **Epi Pens:** The committee discussed the cost, acquisition, storage, administration, replacement, and expiration of epi pens. Epi pen training conducted by the lab was also reviewed. It was recommended that the PI consults with the medical clinic to determine the appropriate frequency of re-training.
- **Delayed Anaphylaxis:** The committee was informed of delayed anaphylaxis experienced by one of the lab members following a bee sting. Additional hazard controls implemented following the incident as well as additional means of ensuring the safety of those working with bees were discussed.
- **Bee Stings:** The risks associated with bee stings as well as the relevant incident reporting procedures were discussed by the committee. It was determined that the Occupational Health and Safety (OHS) risk assessment document will be modified to address work with bees, and that this assessment will need to be completed by every individual that works with bees.

- **Bee handling:** Bee handling procedures were shared and discussed by the committee. It was noted that the bees will be handled in secondary containment while in the lab, and restrained when RNAi is injected.
- **Bee capture:** Procedures for capturing bees were reviewed by the committee.

iii. Required changes:

- **"Personnel" Section**
  - Specify that training records are maintained both online and in paper format.
- **"Project Details" Section**
  - Provide additional information about RNA delivery, such as the amount injected, frequency of injections, location of injection (in biosafety hood, lab bench, etc.), how the bees are handled during the injection, number of bees sprayed/injected at a time.
  - Consult with the medical clinic to determine the appropriate frequency of epi pen administration re-training and implement the recommended re-training frequency.
  - Include a statement conveying that epi pens are inspected to ensure efficacy and implement an epi pen inspection record.
  - Either obtain a written statement from the Marquette University Medical Clinic conveying that epi pens can be used past their expiration date, or replace epi pens once expiration date is reached, and revise the registration to reflect this practice.
- **"Attachments" Section**
  - Revise reporting procedures for bee stings, indicating that the IBC and OHS will be notified of bee sting incidents.

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

- Approve: 10, Deny: 0, Abstain: 0
- Conflicts of interest: None

X. THREE YEAR RENEWAL(S)

A. N/A

XI. MODIFICATION(S)

A. N/A

XII. DESIGNATED REVIEW(S)

A. New protocol(s)

i. N/A

B. Three year renewal(s)

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

ii. Alex Savtchouk, BISC; #5066: "Visualizing 3D cellular activity using 2-photon microscopy in rodent brains (renewal)"

iii. Brooke Mayer, CCEE; #5026: "Advanced UV to remove pathogens and estrogenic micropollutants from water"

C. Modification(s)

i. Lisa Petrella, BIOL; #4589: "Temperature-sensitive germline structures and temperature thresholds of fertility in Caenorhabditis nematodes"

ii. Matthew Hearing, BISC; #4882: "Measuring and manipulating plasticity in cortico-striatal-limbic neural circuits"

iii. Kristi Streeter, PT; BR-212: "Phrenic afferents and diaphragm pacing-induced recovery of breathing following spinal cord injury"

iv. Robert Wheeler, BISC; #4673: "Manipulation and measurement of dopamine signaling and striatal activity"

XIII. TERMINATION(S)

A. N/A

XIV. ADDITIONAL BUSINESS

A. **Meeting Minutes and Public Access Policy:** The committee reviewed and revised the policy.

i. Motion to approve the policy as revised:

- Approve: 8, Deny: 0, Abstain: 1
- Conflicts of interest: None

XV. TRAINING

A. N/A

XVI. PUBLIC COMMENTS

A. N/A

XVII. INSPECTIONS/ONGOING OVERSIGHT

A. N/A

XVIII. ADJOURN 2:08 PM