

**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), 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), Alicja Czyz (Non-Voting Member)

Absent: Rebecca A. Seevers (Non-Affiliated)

Guests: Daniel Wheeler

- I. MEETING DATE:** May 19th, 2026
- II. MEETING TYPE:** In-Person
- III. MEETING STATUS:** Open
- IV. QUORUM:** Present
- V. CALL TO ORDER:** 9:50 AM
- VI. CONFLICT OF INTEREST:** A conflict of interest involving Dr. Blackmore was observed in relation to registration #5375.
- VII. ANNOUNCEMENTS**
 - A.** N/A
- VIII. REVIEW MEETING MINUTES**
 - A.** N/A
- IX. NEW PROTOCOL(S)**
 - A. Daniel Wheeler, BISC; #5375: “Developing Tools for Gated Gene Expression”**
 - i.** Project Overview: Daniel Wheeler explained that the protocol aims to advance conditional gene expression techniques, focusing on controlling the temporal expression of genes using a fluorescent protein that is conditionally expressed based on the presence Mandipropamid. The project will be carried out in collaboration with the another Marquette University laboratory, and is tied to an in vivo animal protocol which has been reviewed by the Marquette Animal Care and Use Committee

(IACUC). The proposed work involves initial in-vivo experiments in which mice will be used as the host for adeno-associated viral vectors (AAVs) containing nucleic acid sequences which code for fluorophores. The utilized transgenes will produce fluorescent proteins, with plans for future in vitro experiments with cell lines and expansion to other transgene types in vitro. The utilized materials are not virulent or associated with disease in healthy adult humans, and can be safely handled under BSL-1 conditions.

ii. **Discussion:**

- **Training verification:** The committee reviewed the training of the listed personnel and determined that everyone is appropriately trained.
- **Clarification and Assignment of Registration Categories:** The committee discussed the appropriate NIH registration categories for the protocol, clarifying distinctions between cloning, plasmid delivery, and viral delivery activities, and confirming the risk group and containment levels for each experimental phase.
- **Applicable section(s) of the NIH Guidelines:** The committee determined that the proposed research falls under sections III-E-1, III-D-4, and III-F-8 appendix C-I, and III-F-8 appendix C-II.
- **Containment conditions to be implemented:**
 - **Biosafety Level (BSL):** It was determined that the appropriate biosafety level for the proposed work cannot be established at this time due to insufficient information.
 - **Additional special safety provisions:**
- **Genome Size:** The committee discussed the size of the DNA inserts in the utilized AAVs, confirming that the recombinant virus contains less than two-thirds of the viral genome.
- **Mechanism and Safety of AAV Integration:** The committee discussed the integration mechanism of AAV vectors, clarifying that recombinant AAVs used in research are designed not to integrate into the genome, but can do so at a very low frequency, and that episomal DNA provides stable, long-term expression without replication.
- **Specification of Genes to Be Expressed and Risk Assessment:** The committee discussed the need for clear specification of genes to be overexpressed in the protocol, distinguishing between fluorescent reporters and other gene categories, and emphasized the importance of listing potential hazards and containment requirements.
 - **Gene List Clarity:** It was noted that the protocol's gene list uses vague language such as 'including but not limited to,' which could allow any gene to be expressed. The committee agreed that the protocol must specify the exact

genes that will be overexpressed, as the gene inserts determine the biosafety risk.

- **Personal Protective Equipment and Waste Disposal Procedures:** The committee discussed the PPE requirements and clarified waste disposal procedures. Procedures for exposure incidents, including immediate washing, reporting to the PI, and completion of post-exposure reports for Risk Management and IBC notification were also discussed.
- **Animal Sourcing and Transfers:** The committee discussed the source of the animals used for the project, and confirmed that any animals provided by another Marquette University PI will be transferred to the collaborator IACUC protocol before use. The financial and procedural logistics for animal ordering were also discussed.
- **Aerosolization Risk:** The committee discussed the aerosolization risks associated with the proposed work. It was determined that the risks cannot be assessed at this time due to insufficient information.
- **Protocol Clarity Concerns:** The committee expressed concerns with the protocol's lack of clarity regarding in vitro and in vivo activities. A clear delineation was requested in the revised protocol.

iii. **Required Changes:**

- **“Personnel” Section**
 - Update phone number for listed staff member.
- **“Vertebrate Projects” Section**
 - Remove mention of rats here and throughout the rest of the protocol.
- **“Viral Vectors” Section**
 - Please state that AAV typically do not integrate into the genome, but can do so at a very low frequency.
 - Update the protocol to provide a specific list of genes to be overexpressed, and avoid vague language such as "including but not limited to," particularly for genes with potential biosafety implications.
- **“Project Details” Section**
 - Provide additional information regarding the proposed in-vivo and in-vitro work, ensuring a clear delineation of the activities.

iv. Motion to table the protocol until the next IBC meeting following the completion of the requested revisions:

- Approve: 10, Deny: 0, Abstain: 0
- Conflicts of interest: A conflict of interest was observed. The conflict arose due to Dr. Blackmore’s involvement in the project

associated with registration #5375. Dr. Blackmore recused himself from the review of the registration, was not present during the vote and deliberations, and did not participate in the associated vote.

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. Brooke Mayer, CCEE; #5358: "Multiple projects on Electrocoagulation/electrooxidation of BSL1 bacteriophages: 1) FRP: Electrocoagulation for the mitigation of emerging biological and chemical contaminants, 2) Novel electro-treatment for the mitigation of endocrine-disrupting compounds and viruses in drinking water (formerly BR-148)"

ii. Brooke Mayer, CCEE; #5358: "Multiple projects on Electrocoagulation/electrooxidation of BSL1 bacteriophages: 1) FRP: Electrocoagulation for the mitigation of emerging biological and chemical contaminants, 2) Novel electro-treatment for the mitigation of endocrine-disrupting compounds and viruses in drinking water (formerly BR-148)"

C. Modification(s)

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

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

iii. Nil Lodh, Medical Science Lab; #4853 "Effective Molecular Diagnosis and Determination of Prevalence of Malaria, Schistosomiasis, Hookworms, and Strongyloides stercoralis from Filtered Human Urine Samples"

XIII. TERMINATION(S)

A. Krassimira Hristova, BIOL; BR-197: "Novel probiotics for treatment of biofilm forming microbial pathogens"

XIV. ADDITIONAL BUSINESS

A. **Office of Science Policy (OSP) Submission Update:** It was noted that the committee's annual update was submitted to OSP by the deadline, and will inform the group when feedback is received.

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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