



**Transformative Research in Metabolism (TRiM)
Internal Steering Committee Meeting (ISC)**

Friday, January 8, 2021

12:00 to 1:00 p.m. by Zoom

<https://alaska.zoom.us/j/899633093>

- 12:00 p.m. Welcome: Dr. Khrys Duddleston, ISC Chair
- 12:05 p.m. Review and request action on ISC draft meeting agenda, 1.8.2021
- 12:05 p.m. Review and request action on ISC draft meeting minutes, 10.23.2020
- 12:10 p.m. Research Projects and Core Updates
- Post transcriptional mechanisms of muscle atrophy prevention in hibernating mammals - PI Vadim Fedorov
 - Microbial Provision of essential amino acids: protein conservation in hibernation – PI Khrys Duddleston
 - Nutritional strategies for metabolic health in aging – PI Robert Coker
 - Health & Metabolism Research Core (HaMR) – Dr. Carl Murphy, Leader
 - Advanced Instrumentation for Microbiome Studies – Dr. Brandon Briggs, Leader
 - AGS Breeding Colony – PI Kelly Drew and Dr. Oivind Toien
 - Admin Core Updates – Dr. Kelly Drew and Denise Daniello
 - Pilot Project Review Process
 - AI/AN CTRP (American Indian/Alaska Native Clinical Trials and Research Program) sponsored Human Clinical Trial Training Series
 - Stakeholder Presentations
- 12:40 p.m. Committee Updates
- Translational Advisory Committee Meeting, November 10, 2020 – Dr. Robert Coker, TAC Chair
- 12:45 p.m. New Business Items for Discussion - All
- 12:50 p.m. Other Discussion
- 12:55 p.m. Schedule next virtual ISC meeting: **Friday, February 26, 2021, 12:00 p.m. to 1:00 p.m.**
- 1:00 p.m. Adjourn

Center for Transformative Research in Metabolism (TRiM)
Internal Steering Committee Meeting (ISC), Draft Minutes
Friday, October 23, 2020, 12:00 to 1:00 p.m., Virtual Meeting by Zoom

Call to order: ISC Chair Dr. Khrys Duddleston welcomed all and called the meeting to order at 12:00 noon. She then handed the virtual gavel to Dr. Kelly Drew to lead the meeting in her absence.

I. Attendance: UAA representatives present included Dr. Khrys Duddleston (ISC Chair and Project 2 PI) and Dr. Brandon Briggs (AIMS Core Leader). UAF representatives present were Dr. Kelly Drew (TRiM Director and PI), Dr. Vadim Fedorov (Project 1 PI), Dr. Anya Goropashnaya (Project 1 & Admin Core), Dr. Cory Williams, Dr. Carl Murphy (Leader, HaMR Core), Dr. Oivind Toien (HaMR Core), Dr. Andrej Podlutsky (Associate Professor of Molecular Biology, IAB), Dr. Larry Duffy, Scott Jerome (HaMR Core), Bahareh Barati (Admin Core), Jen Danielson (TRiM external evaluator, Goldstream Group), Pat Rivera, Matt Seymour (Admin Core), Dawniel Dupee (Admin Core), and Denise Daniello (Admin Core).

II. Welcome Dawniel Dupee – Denise introduced Dawniel as TRiM’s new Fiscal Technician and Admin Assistant replacing Brittany Wilhite who is now attending veterinary medical school at UAF. Dawniel previously served as the Grant Fiscal Officer for the College of Natural Science & Mathematics (CNSM) and has ample experience in travel coordination and budget management. Welcome Dawniel!

III. Agenda, 10.23.2020: A motion to approve was made by Khrys and seconded by Carl. There were no objections.

IV. Draft Minutes, 8.28.2020: A motion to approve the minutes was made by Khrys and seconded by Carl with no objections. Minutes were approved.

V. Research Projects and Core Updates

- Post transcriptional mechanisms of muscle atrophy prevention in hibernating mammals– PI Vadim Fedorov. Dr. Fedorov reported ongoing work to arrange shipment of 15 AGS skeletal muscle samples to ohmX.boi laboratory in Belgium with the World Courier. They expect that the Belgium lab will receive an import permit soon and have scheduled a shipment date with World Courier for the transport. The samples are for ribosomal profiling experiments which will be used as results in a future RO1 proposal.

Dr. Fedorov’s lab has been using AGS skeletal muscle samples for fiber typing and other analysis to reveal structural changes in muscles during different seasonal time points. The animals include 7 juvenile males before hibernation, 3 males and 2 females in early (2 weeks) hibernation. They were collected by Hoshi Sugiura, Kelly Drew, Jeanette Moore, Moriah Hunstiger and Anya Goropashnaya. The results of the study will be used in a project related to Peripheral Artery Disease (PAD) prevention and treatment. A Pilot Project pre-proposal for this study was submitted by Anya Goropashnaya.

Vadim submitted a proposal to the IDeA proteomic facilities to reveal differential expression in genes at the protein level in black bears during hibernation compared to summer active animals. Verification of protein quality and quantity was required so Michelle Johannsen, with the help of Moriah Hunstiger and Anya Goropashnaya, could extract total protein from skeletal muscles of one hibernating and one summer active black bear. The first fraction with cellular debris and nuclei were

removed. The protein samples were run on a gel to show good quality. They expect a decision on the proposal by November 1.

Dr. Fedorov and his colleagues have been working on a manuscript on the black bear gene expression profiles in bone during hibernation. The study has been conducted in collaboration with NCGR (New Mexico INBRE). The preliminary title is *Modulation of gene expression and bone mass preservation in hibernating black bears*, to be submitted in December 2020.

- Microbial provision of essential amino acids: protein conservation in hibernation – *PI Khrys Duddleston*.

Khrys reported that her lab's squirrels are in hibernation and experiments are planned to begin in November or early December. Three rounds of injections are planned for the animals with one occurring during arousal, a second during torpor, and a third when the animals are aroused at which time breath will also be collected. The animals will then be euthanized and tissue samples collected. The purpose of collecting breath is to show if urea acid is being broken down. Khrys also described other agents to be analyzed as part of her tissue analysis, including presence of microbiota in the gut.

Khrys also reported that her R01 is pending at this time. She has two papers in preparation with one focused on AGS 13-liner animals in collaboration with a researcher at the University of Wisconsin. The second paper, being developed with Dr. Pat Tomco at UAA, is focused on examining microbial communities in sea water. Khrys is a Co-PI on a project with her University of Wisconsin colleague.

- Nutritional strategies for metabolic health in aging – *PI Robert "Trey" Coker*. Trey is traveling this week and unable to attend the ISC meeting. Scott Jerome, Research Navigator, reported. He noted that Trey's project will begin recruiting participants in November and December however, recruitment is expected to be slow prior to the holidays and should improve following the holiday season. They have received the new "better tasting" supplement formula for use in the clinical trial.
- Health and Metabolism Research Core (HaMR) – *Dr. Carl Murphy, Leader*. Carl reported that he will be meeting with Dawniel to review the HaMR Core's budget. Carl also noted the Core's COVID mitigation efforts included the purchase of two specialized air filters in addition to disinfectant supplies. The School of Management abruptly removed Qualtrics, the software used by the Core for its surveys to gather user information, which may be replaced by REDCap. The MIF Policies have been updated to include a "Merit Award" and have been forwarded to IAB for review and approval prior to submitting to OGCA for final approval. Carl asked Denise to coordinate with Warweb Designs to post a "temporary out of order" page for all of the Core's forms as they are now disabled, due to the discontinuation of Qualtrics, until a solution is found. Carl also noted that the Core is providing resources for Dr. Larry Duffy's canine project.

Oivind Toien, Manager of Animal Instrumentation, reported conditional funding approval through INBRE's Special Request Award that will be used to purchase MRI loggers for the Core. He noted a quote for the purchase that would save \$3,000 if purchased before December. TRiM is waiting to find out if INBRE is able to cover those funds prior to NIH's approval or find another funding source so that the Core can take advantage of the savings for early purchase.

- Advanced Instrumentation for Microbiome Studies (AIMS) – *Dr. Brandon Briggs, Leader*. The AIMS lab is continuing to make the Virtual Transport Media (VTM) but production is slowing down in response to the department’s reduced level of testing as the state is anticipating the release of the vaccine. The AIMS lab continues to test waste water for several communities and recently received funding from the Department of Environmental Conservation to expand the number of communities being tested. AIMS is moving forward with their sequencing work and are now sequencing samples from the Coker lab. They are also conducting bioinformatics work for Dr. Jack Chen, UAF Health Virology Lab. AIMS continues to work towards getting the Recharge Center in place.
- AGS Breeding Facility – *Dr. Kelly Drew*. The wild AGS captured last summer are now being housed in ARC’s indoor facility. Due to project delays, ARC has assumed animal care at the indoor facility. The new outdoor facility will have plenty of grass, protection against escapement, and drainage. ARC will ask IACUC to test the area for protocol compliance. We have 30 AGS housed inside at this time and will transfer some of them outside to the breeding facility in April or May 2021.
- Admin Core – *Dr. Kelly Drew and Denise Daniello*. We received 8 pre-proposals to TRiM’s call for Pilot Project pre-proposals and 7 made pitch presentations to TRiM’s key personnel. We will be scheduling meetings with each investigator to discuss possible funding mechanisms, strategies to move projects forward, and encourage use of TRiM’s resources to the greatest extent possible. A quick review of the pre-proposals submitted was described. In addition, the Admin Core submitted an Admin Supplement to NIH National Institutes of Aging with a focus on discovering therapeutics to address vascular dementia based on hibernation science. Kelly noted that anabolic sensitivity has direct application to understanding human brain health and frailty is a concept that fits well with aging. Denise reported that the Piestar contract has been recently signed and work will begin soon with Piestar to gather information from TRiM’s key personnel to complete NIH reporting information due on May 1, 2021.

VI. New Business

Kelly described early planning efforts for developing a hibernation symposium that will target clinicians and others who are interested. The symposium will happen during the last two weeks in May. The Admin Core will send out a doodle poll to target a specific date. Dr. Larry Duffy, who serves as a member for the American Association for the Advancement of Science (AAAS), offered their annual meeting as a platform to host the symposium. Kelly also noted the INBRE retreat, October 2-3, 2021, may be another place to do an event in collaboration with IAB.

VII. Other Discussion – None

VIII. Schedule next meeting – Friday, January 8, 2021, 12:00 p.m. to 1:00 p.m.

IX. Adjourn – The meeting adjourned at 1:06 p.m.