

**Center for Transformative Research in Metabolism
External Advisory Committee, In-Person Meeting
Thursday, August 3 through Saturday, August 5, 2023
External Advisory Committee Meeting Agenda**

Meeting Objectives:

1. EAC to meet with UAF Administration to review the Center's activities and ask for Center support.
2. Investigators and Core Leaders to provide project updates and funding plans through formal presentations and one-on-one meetings with the EAC to obtain meaningful guidance for continuation of effort.
3. Present a public lecture on the topic of hibernation and hibernators living at Denali Park by TRiM investigators.
4. Develop constructive plans to continue the Center, with and without COBRE Phase 2 funding.

Meeting Desired Output:

1. EAC to make a successful request to UAF administration to provide institutional support for the Center's activities and funding applications.
2. Professional development for TRiM's Research Project Leaders and Pilot Project Investigators based on EAC and mentor guidance.
3. Receive meaningful feedback from TRiM personnel and the EAC to develop a plan for moving forward with and without COBRE renewal funding.
4. Enhance public understanding of hibernation as an adaptation strategy, TRiM's research, and applications to support human health and promote healthy aging.

Thursday, August 3, 2023

- 8:30 a.m. *EAC Meeting with UAF Leadership* – EAC will meet with Chancellor Dan White (in-person) and IAB Interim Director Diane O'Brien (virtual) at UAF Signer's Hall, Conference Room 330. **This meeting is cancelled and will be rescheduled for a later date.**
- 9:45 a.m. *EAC Private Meeting* – EAC to meet and debrief following UAF leadership meeting in Murie Conference Room 230.
- 11:00 a.m. Drive to Denali Park.
- 1:00 p.m. Meet for lunch at 49th State Brewery.
- 2:00 p.m. *Arrive at Denali Park.* Meet at Murie Science Learning Center for meeting (MSLC) (parking lot 6).

- 2:30 p.m. *Welcome, introductions, and overview of the EAC August 2023 meeting agenda, goals, and activities.* MSLC, West Classroom, Denali Park.
Dr. Kelly Drew, Director, Center for TRiM. / Water, coffee/tea, and light snacks provided.
- 2:45 p.m. *Hibernation Science Workshop Update, August 6-18, 2023*
Kelly, Denise, and Sarah
- 3:15 p.m. *The State of the Center: Where we are today, where do we want to be, and how do we get there?*
Discussion: Kelly to introduce this topic with invited input from the EAC and TRiM staff. This discussion will continue Friday and Saturday during group hikes, followed by a structured activity on Saturday afternoon to share ideas and comments.
- 3:30 p.m. *Afternoon Break*
- 3:45 p.m. *TRiM Core Updates (About 30 minutes for each presentation)*
- **Admin Core** – Kelly, Denise Daniello, & Sarah Zieschang
 - **AIMS Core** – Dr. Brandon Briggs and Eric Henderson
 - **HaMR Core** - Kelly to provide the HaMR Core presentation. (Dr. Carl Murphy, Core Leader, on scheduled leave).
- 5:00 p.m. *Recess for the day.* Check-in at Denali Grizzly Bear Resort.
- 5:15 p.m. Enjoy a light hike and no host dinner together. Everyone is invited.
Local suggestion: “Cabin Night Dinner and Theatre” with a show at 7pm across from the hotel.
- Friday, August 4, 2023. Meet at the Murie Science Learning Center, West Classroom.**
- 8:15 a.m. Breakfast together in the Park - No host meal, TBD place or bring own food.
- 9:15 a.m. *Good Morning and Welcome Back: Research Project Updates (30 minutes for the presentation)*
PI Khrys Duddleston, PhD: *Microbial provision of essential amino acids: Protein conservation in hibernation.* Advisor C. Loren Buck, PhD
- 9:45 a.m. *Pilot Project Presentations (45 minutes for each pilot presentation)*
PPL Oivind Toien, PhD: *Adaptations of sleep and cardiac rhythms in the hypometabolic state of a human-sized hibernator.* Advisor/Mentor Craig Heller, PhD
- 10:30 a.m. *Morning Break*

- 10:45 a.m. **PPL Anya Goropashnaya, PhD:** *Molecular changes in a hibernator's skeletal muscles during winter as a pathway to peripheral artery disease intervention.* Advisor/Mentor Esther Dupont-Versteegden, PhD
- 11:30 p.m. *Lunch Break*
- 1:00 p.m. *EAC Confidential Meetings with TRiM Core Leaders (30 minutes each).*
- Admin Core & HaMR Core
 - AIMS Core
- 2:00 p.m. *EAC confidential meetings with TRiM investigators and mentors (30 minutes each).* During this time, Core leaders will be available to meet with project leaders to discuss their project needs while other project leaders meet with the EAC.
- PI Khrys Duddleston, PhD
 - Oivind Toien, PhD, Pilot Project Investigator and Mentor Craig Heller, PhD
 - Anya Goropashnaya, PhD, Pilot Project Investigator and Mentor Esther Dupont-Versteegden, PhD
- 3:30 p.m. *Group Hike Activity* - Come together to hear instructions for this group activity. Questions to be discussed during Group Hike #1:
- Do we want to continue the Center? Why and why not?
 - What elements are most critical to maintain? For the short term and long-term?
 - How can we build up our funding to be sustainable over the long-term?
- 5:30 p.m. *Dinner Break* - In addition to restaurants, there are food trucks in the area.
- 7:00 p.m. *Denali Park Public Talk* – “Comfortably Cold: Hibernating Mechanisms of Alaska Mammals,” TRiM Panel Discussion, Murie Science & Learning Center. This panel talk will include Drs. Sarah Rice (AGS Hibernation and Nutrition), Anya Goropashnaya (AGS Life Cycle and High Limb Ischemia), and Oivind Toien (Bears) as presenters with time for audience questions/discussion. Suggest meeting at 6:45 p.m. at the MSLC before the 7 p.m. presentation.
- Saturday, August 6. Murie Science & Learning Center**
- 8:30 a.m. *Hotel check-out.* After checkout, meet at the MSLC to find breakfast in the Park. After breakfast, return to the MSLC conference room to resume the EAC meeting.
- 9:30 a.m. *Denali Park Public Talk Debriefing* - How was our talk received? Any surprises from the audience or questions asked? What can we do differently next time to improve our presentation? As time allows, let's share thoughts and ideas about sustaining the Center based on conversations during yesterday's hike.

9:45 a.m. *Group Hike and Continued Discussion on the State of the Center – What are our plans to move forward?*

Please hike together as a group and discuss the questions below. After the hike, we will come back together and ask you to note your responses as individuals on large white paper taped on the wall to each of the discussion questions from both hikes.

Questions to be discussed in your group during Hike #2:

- Do we need the COBRE Phase 2 award to continue the Center’s research projects and cores? What are our other resources?
- What do we want to focus on in Year 6, No Cost Extension?
- Other items discussed during the hike related to continuation of the Center’s research and cores?
- Reflections and concluding remarks.

11:30 p.m. *Lunch*

12:45 p.m. *Meet at the MSLC conference room to discuss outcomes from the group hike discussions.* There will be several pieces of large white post-it paper taped on the walls. Each piece of paper (or two) will state one of the discussion questions. Please write your responses to the questions on the index sticky notes that will be provided and post them on the post-it paper on the wall. Then, vote for each response after all responses are noted using the following evaluation comments of “must have,” “nice to have, but not critical,” “can live without,” and “not needed” that will be passed out. We will conclude by sharing our overall impressions at the conclusion of the EAC meeting.

Based on our group’s responses, the Admin Core will pull together suggested themes for a draft action plan to discuss at an upcoming ISC meeting.

3:00 p.m. *Final thoughts and date for next EAC meeting. Adjourn.*



**Center for Transformative Research in Metabolism (TRiM)
External Advisory Committee (EAC) Meeting, Draft Meeting Minutes
Tuesday, February 28 and Thursday, March 2, 2023, Virtual Meeting**

Tuesday, February 28, 2023

Call to order: Dr. Kelly Drew welcomed all at 9:00 a.m. on Tuesday, February 28, 2023 and described the purpose of this EAC meeting which is to provide individualized time for EAC members to meet with TRiM's research investigators and their mentors.

Attendance: EAC members present included Chair Tom Kilduff, PhD, Director of the Center for Neuroscience at SRI International; Margaret Rice, PhD, Professor and Vice Chair for Research, Department of Neurosurgery, and Professor for the Department of Neuroscience and Physiology NYU Grossman School of Medicine; Detlev Boison, PhD, Vice Chair of Research and Training, Dept. of Neurosurgery, Professor, Dept. of Neurosurgery, Robert Wood Johnson Medical School, Professor, Dept. of Neurosurgery, New Jersey Medical School Core Member, Brain Health Institute Rutgers University; and David Lathrop, PhD, Consulting Scientist and former Chief of the Heart Failure and Arrhythmias Branch in the Division of Cardiovascular Sciences at the NIH National Heart Lung Blood Institute.

Persons representing UAF were Kelly Drew, PhD, Center for TRiM Director; Diane O'Brien, PhD, Interim Director, Institute of Arctic Biology (IAB); Vadim Fedorov, PhD, Research Associate Professor and PI, Project 1; Carl Murphy, PhD, Leader of the Health and Metabolism Research (HaMR) Core and Molecular Imaging Facility (MIF) Manager; Anya Goropashnaya, PhD, Research Assistant Professor and Pilot Project Leader; Oivind Toien, PhD, Research Assistant Professor and Pilot Project Leader; Jack Chen, PhD, Professor of Virology and Deputy Director, *Alaska* State Virology Lab; Hoshi Sugiura, Veterinary Technician and Animal Support Manager, HaMR Core; Sarah Zieschang, Admin Assistant, Admin Core; and Denise Daniello, Program Coordinator, Admin Core.

UAA representatives present were Khrys Duddleston, PhD, Professor and Director Department of Biological Sciences, Project 2 PI, and Chair of the TRiM Internal Steering Committee; Brandon Briggs, PhD, Assistant Professor and Leader of the Advanced Instrumentation in Microbiome Studies (AIMS) Core; and Eric Henderson, AIMS Core Lab Manager.

Others Attending: Judy Kelleher, PhD, President and CEO at Neuronascent, Inc. and member of the TRiM Translational Advisory Committee (TAC); Daniel Promislow, PhD, Professor and Co-Director, Dog Aging Project, mentor to Dr. Kriya Dunlap and TAC member, University of Washington; and Jen Danielson, External Evaluator, Goldstream Group.

TRiM Overview: Using a power point, Kelly recapped the accomplishments this year by noting the proposal submissions, publications, and manuscript submissions. Kelly called out the pilot project investigators who have been very productive this year with a R21 submission to NIA by Dr. Anya Goropashnaya, three proposals submitted by Dr. Oivind Toien that included the R24 bear facility renovation project to NIGMS Office of Research Infrastructure Programs (ORIP), a request to Alaska's Congressional delegation for federal funds to support the bear facility project, and the R01 to the National Heart Blood, Lung Institute (NHBLI) for his bear sleep scoring research project, in addition to Dr. Kriya Dunlap's R03 application to NIA for her Vitamin D research using the sled dog model that received a high score and percentile ranking as well as positive reviewer comments. Kelly also noted the proposal submissions by Drs. Fedorov, Briggs, and Duddleston as well. In total, there was at least

\$8.5M requested during this grant year to date with one grant awarded in the amount of \$211,270 to Dr. Khrys Duddleston, as Co-I, for a renewal of this R15 grant.

Other accomplishments also noted were the approved recharge center status for the AIMS Core which will conduct gene sequencing of Antarctic samples and library prep for metagenomics and metatranscriptomics for these data samples; submission of the first UA proposal to the NIH SuRE First funding mechanism by Dr. Maegan Weltzin, Assistant Professor, UAF Chemistry Dept.; processing three J-1 Visa Scholars to help improve the research culture for graduate students; and published the Annual Report, FY2022.

Challenges noted included working to resolve the NIH non-compliance issue for Project 3 human subjects and clinical trial; turnover of key personnel at the UAF Office of Grants and Administration; securing a date that works for the 2023 in-person EAC meeting; and finding a path forward for the COBRE renewal including an eligible COBRE PI.

Kelly mentioned the reorganization of the Translational Advisory Committee with an added focus on the canine model that is being explored because Fairbanks clinicians are overwhelmed with high patient loads and lack the time to participate in human clinical trial research, as Trey Coker experienced with his human subjects research. Judy Kelliher and Daniel Promislow have been recruited to fill new seats on the TAC. They bring expertise in innovative drug discovery research to treat cognitive dementia (Judy Kelliher) and experience using the canine model (Daniel Promislow).

Kelly also provided an update about the Hibernation Science Workshop, August 6-18, 2023 that will include classroom lectures and hands-on activities on August 7-14 and a field trip training at Toolik Research Station located in the Brooks Range, August 15-18. UAF faculty instructors are Drs. Brian Barnes, Kelly Drew, and Oivind Toien. Invited faculty include Drs. Elena Gracheva, Yale School of Medicine, and Matt Andrews, University of Nebraska. The workshop, covering a diverse range of topics related to arctic hibernators and their adaptations, targets graduate students, post-docs, and early career investigators interested in hibernation research. Marketing and logistic planning efforts are underway.

Attendee Discussion

Tom Kilduff pointed out that the R01 applications previously submitted by Vadim and Anya were not noted on the power point slide describing TRiM's proposal submissions for this grant year. He also noted that NIGMS is a good fit for Vadim's research and NIAMS for Anya's research.

Daniel Promislow expressed his enthusiasm for the Hibernation Science Workshop. He also noted that hibernation has biomedical applications for human aging and should be included in the topics covered. Kelly agreed and added that hibernators have regenerative properties that are in addition to metabolic changes related to healthy aging.

The remainder of the day was used by the EAC to meet with Drs. Fedorov, Duddleston, Toien, and their mentors. The EAC also met with the Admin Core (Kelly and Denise). All meetings of the investigators and their mentors with the EAC were private and therefore not reported in the meeting notes.



Wednesday, March 2, 2023

The EAC met with Drs. Goropashnaya and Dunlap with their mentors in one-on-one sessions. A group wrap-up session followed these meetings to find a meeting date for the next in-person EAC meeting. Due to scheduling conflicts, it was decided to schedule this meeting for the first week of August in Denali Park, pending hotel availability, prior to the Hibernation Science Workshop. If no housing is available, the meeting will be held on UAF campus. This will be the last in-person meeting for the COBRE Phase 1 TRiM with one more virtual meeting to be scheduled in 2024.

The NIH EAC report is due in May and will be submitted with TRiM's NIH reporting. Tom asked Denise to help put the report together for the EAC to review and act. The meeting was adjourned at 3:15 p.m.