

Is COVID changing which scientific research gets funded? Read about it [here](#).

BIOBEAT

Dec 8, 2020

To see what the BIOL 4101 students will be researching next semester, check out their [website!](#)

Join us for Student Talks on Friday!

On Friday, Dec. 11th, you are all welcome and encouraged to attend the Independent Project Students' final talks. They have all worked extremely hard this semester to pull together their projects, write a paper, and they're excited to share their work with you on Friday. At least, I think they are. Below are the students' descriptions of what they've been working on all semester. You'll find a schedule and links to their talks on the following page. Tune in on Friday and see what your fellow students have been working on!

Janet Adeoti: Have you ever seen someone with their head permanently tilted to the side? This person may have cervical dystonia, a poorly understood, yet third most common movement disorder. My project seeks to better understand the role sensory processing may play in producing abnormal reflex responses in cervical dystonia. The research is ongoing, and preliminary results have not found any significant differences in reflex responses between patient and control groups. This work will improve our understanding of disease mechanisms in dystonia.

Jarod Huhtala: My research project focused on whether there is a relationship between running economy and ankle joint stability. Although the available research on this topic is sparse, there is evidence to suggest a link between running economy and joint stability. I found that ankle stability may impact running economy, and I discovered that tendon stiffness might play an important role in muscle-driven ankle stability. Given my athletic therapy background, I will discuss plausible mechanisms that ankle stability can influence running economy.

Manuel Javan: My 4299 project is on the topic of chronic ankle instability assessment. I am reviewing literature on assessment methods for chronic ankle instability from the clinical and research domain. We will be looking at future directions and limita-

tions of these methods. We will also look if some of the research methods can be transferred into the clinical domain. We will also be discussing about the anatomy and the physiological mechanism of the foot and ankle.

Cameron MacLellan: Science Literacy is a term that has been around for decades, and achieving it has been a goal of many scholars and science educators since its inception. With the many challenges that our world faces such as climate change, a global pandemic, poverty, and misinformation it is important for science educators to help improve science literacy within our populations. This project outlines the history of science literacy, why it is important, and how we can improve it.

Daniel Major: While historically regarded as the "glue" of the brain, astrocytes are gaining notoriety as essential actors in health and disease. They are especially known for their role at the synapse, which is the space that gets flooded with chemical messengers when brain cells communicate. Using microscopy and genetically altered mice we are able to visualize how astrocytes may be responding to these messengers, suggesting both adaptability and functionality. This work is crucial to understanding how learning and memory happens.

Dexter Merenick: Gut microbiota have been found to have negative and positive associated effects on host metabolic health. The gut bacterium in my area of study has surface proteins on the outside of it that interact with host intestinal cells. This interaction is able to mediate beneficial downstream effects such as decreasing obesity, intestinal bowel disease and colitis. The bacterium has also shown to improve integrity and strength between the intestinal cells. This protein is thought to be one of the main mechanisms for the beneficial effects and may be a potential therapeutic agent for individuals with associated diseases.

FRIDAY'S TALK SCHEDULE

Amar Sangha: Paediatric epilepsies are naturally resistant to standard antiepileptic drugs and treatments. Fortunately, cannabidiol (CBD), the non-psychoactive part of cannabis, has emerged as an effective and tolerable therapy for children suffering from epilepsy. This project will describe endocannabinoid signalling and exogenous cannabinoids, the physiological factors of why the paediatric population is naturally at a higher risk of epilepsy, the mechanistic effects of CBD in epilepsy, and CBD's effectiveness in recent clinical trials.

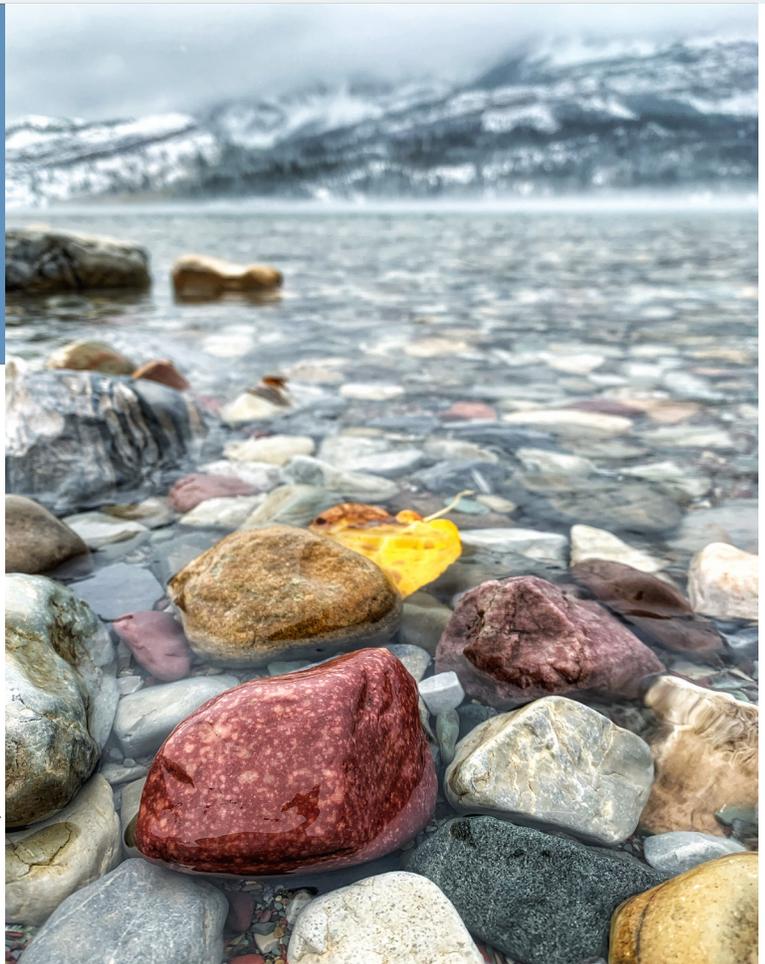
Join for one talk or for all of them. Participate and ask questions, or just sit back, listen, and learn a few things. Either way, everyone is welcome.

[Session 1 - 12:00pm to 1:30 pm](#)

Presentation 1: 12:00 pm - 12:25 pm - Dexter Merenick - Outer Membrane Protein on *A. muciniphila* and its Binding Ability to Toll-Like Receptor 2 on Intestinal Enterocytes Cells and its Effects on Host Physiology

Presentation 2: 12:30 pm - 12:55 pm - Jarod Huhtala - Running Economy and The Foot-Ankle Complex: Is There a Link Between Running Performance and Joint Stability

Presentation 3: 1:00 pm - 1:25 pm - Manuel Javan - Chronic Ankle Instability: A Rolling Review



[Session 2 - 2:00pm to 4:00 pm](#)

Presentation 1: 2:00 pm - 2:25 pm - Janet Adeoti - Reflexive Responses to Sudden Perturbation in Cervical Dystonia

Presentation 2: 2:30 pm - 2:55 pm - Daniel Major - Non-random distribution of mGluR5 in cortical astrocytes

Presentation 3: 3:00 pm - 3:25 pm - Amarpreet Sangha - Cannabinoids in Paediatric Epilepsy

Presentation 4: 3:30 pm - 4:00 pm - Cameron MacLellan - Science Literacy: It's History, Why It Is Important, and How We Can Improve It

A FEW LAST MINUTE EXAM TIPS...

- *Read through the exam and all the instructions. If you aren't sure, ask your instructor.*
- *Remember, everyone feels exam anxiety.*
- *Have everything you think you will need at the ready. Don't go searching for textbooks or notes during an exam.*
- *Even though exams are online, the same rules apply as in person - do your own work.*
- *Don't work in a group unless you've been told you can.*
- *Don't panic. In the end, just do your best to answer a few questions. That's all it is.*

Good luck on your exams, everyone! Also make sure you get some rest and take some time away from your computer over the break!