UBC NEUROSCIENCE

UBC NEUROSCIENCE NEWSLETTER

EDITION 1 (NOV 15-21)

ABOUT
WHAT THIS IS?

Welcome to the first edition of the undergraduate neuroscience program newsletter! This newsletter is student-run (you can find more information about us at the bottom), and was created with the purpose of helping you get more involved in neuroscience at UBC.

ABOUT
WHY READ THIS?

We spend a lot of time compiling amazing opportunities (for undergraduates like yourself) in this newsletter every week so that you don't have to! So, please take some time to read through it. Have a great week.

NEWS LETTER TOPICS

RECAP ON LECTURE

Get a recap on last week's (November 13 - 20) lecture by Dr. O'Conner on research methods for studying Brain-Behaviour relationships.

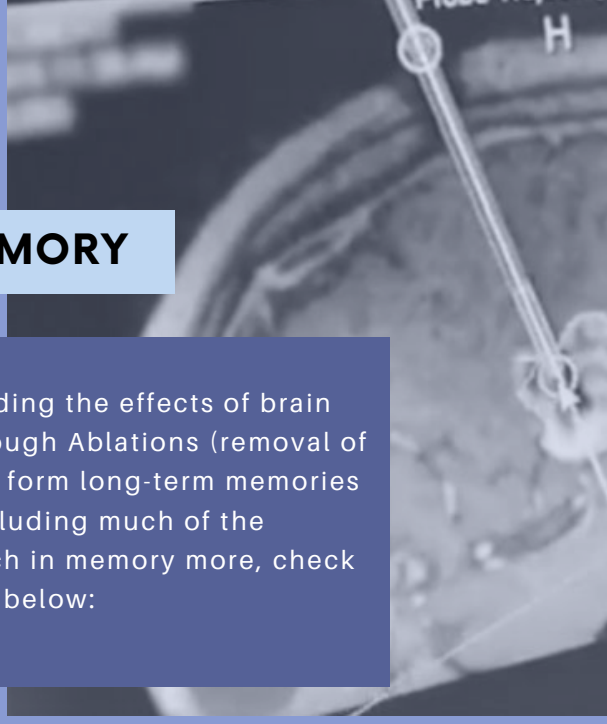
UNDERGRADUATE LAB HIRING

We have provided links to UBC labs exploring the research methods we discussed in class. Some of these labs are even looking to **hire undergraduate students**.

UPCOMING EVENTS + MORE

Find out more on events we are going to be having this week + more!

RECAP ON LECTURE + LABS



1 - UNDERSTANDING MEMORY

We took a look at some renowned case studies regarding the effects of brain damage. H.M's story helped us understand memory through Ablations (removal of brain areas for medical purposes). He lost the ability to form long-term memories due to an ablation of ⅔ of his temporal lobe (including much of the hippocampus). If you're interested in exploring research in memory more, check out the work of the UBC researchers below:

CEMBROWSKI LAB - interested in working with undergraduate students

Molecular neuroscience; Mathematical modelling and simulation; Mechanisms of memory in the brain; Anxiety; Big Data; Bioinformatics; Cell types; Computation; CRISPR-Cas9; Fear; Genetics; modeling; Neural circuits; neuroscience; Neuroscience of memory; PTSD; RNAseq

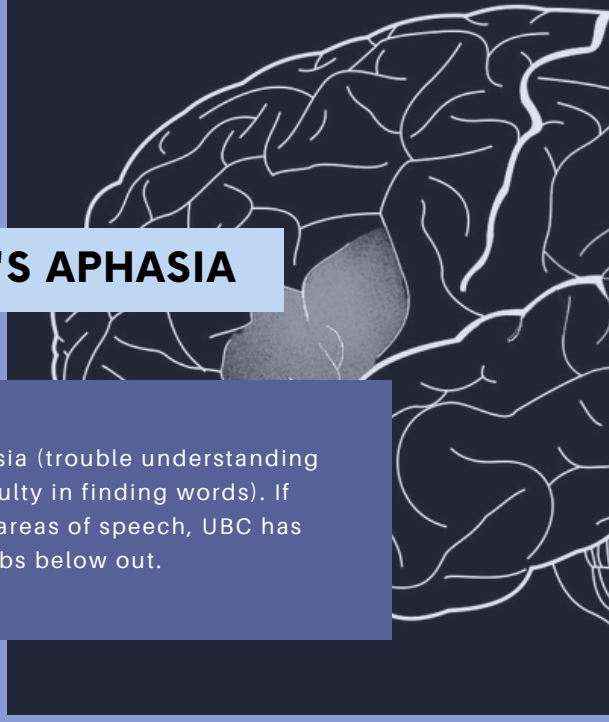
https://www.cembrowskilab.com/

ALIVE LAB - interested in working with undergraduate students

Neurosciences, biological and chemical aspects; Neurosciences, medical and physiological and health aspects; Psychology and cognitive sciences; cognition; Emotional learning (associative learning of reward and punishment); Human Cognition and Emotion; Human Neurocognitive processes underlying all of the above; Learning and Memory; Motivation, Emotions and Rewards; Motivationally and affectively biased attention and memory

https://alivelab.ca/

RECAP ON LECTURE + LABS



2 - BROCA'S AND WERNICKE'S APHASIA

We also saw interesting videos of cases of Wernicke's Aphasia (trouble understanding spoken and written language) and Broca's Aphasia (difficulty in finding words). If you're interested in reading more about research in these areas of speech, UBC has some interesting labs. Consider checking the labs below out.

ADULT LANGUAGE PROCESSING AND DISORDERS LAB

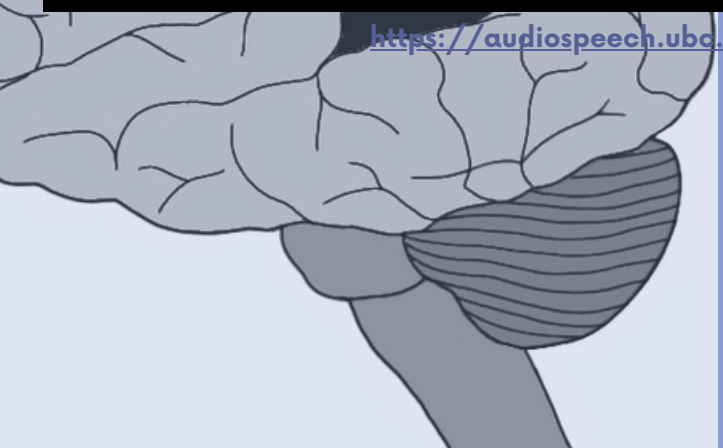
Acquired communication disorders, including Alzheimer's disease, aphasia, hearing loss; memory and communication strategies and interventions; adult language processing/psycholinguistics

https://audiospeech.ubc.ca/research/adult-language-processing-and-disorders-lab/

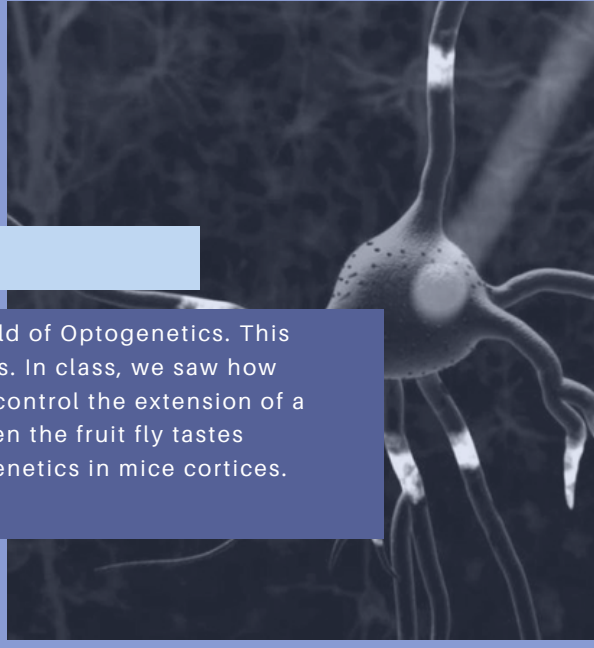
LIVING WITH APHASIA LAB

In the Living with Aphasia Lab, we investigate how adults with aphasia and their family members live with their language disorder, with the ultimate goal of finding ways to improve their quality of life.

https://audiospeech.ubc.ca/research/living-with-aphasia-lab/



RECAP ON LECTURE + LABS



3 - OPTOGENICS

At the end of the lecture, Dr. O'Connor shed light on the field of Optogenetics. This field concerns synthetic light-activated membrane proteins. In class, we saw how expressing channelrhodopsins and shining blue light could control the extension of a fruit fly's proboscis (which is usually only extended when the fruit fly tastes something sweet). The Murphy Lab at UBC works on optogenetics in mice cortices. I've linked them below

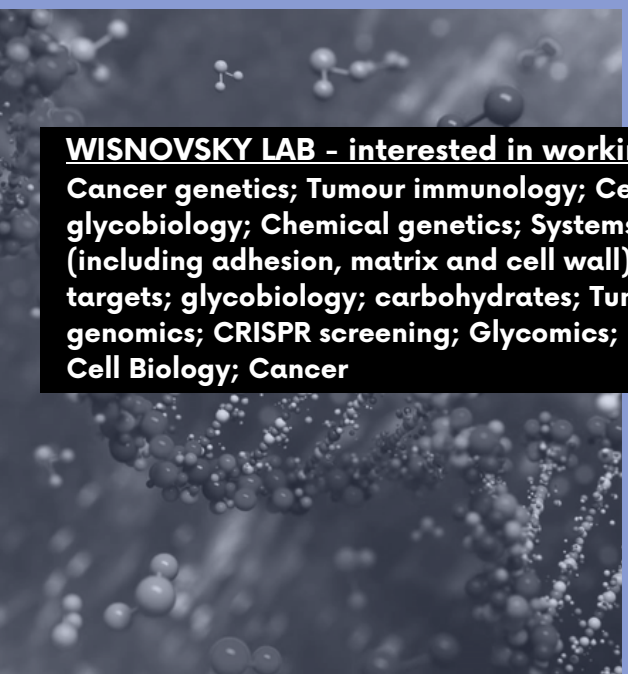
MURPHY LAB

Brain circuits; stroke; synapse imaging;CNS synapse plasticity; in vivo imaging; optogenics; sensorimotor circuits; brain mapping; brain activity; synthetic data; neurological disease.

https://murphylab.med.ubc.ca/

4 - GENE MANIPULATION

We then took a sharp turn and explored genetic research methods in neuroscience. We looked at gene knockout/knock in, and other gene manipulation methods such as CRISPR. Many, many labs at UBC use gene manipulation techniques. I've listed one below that has indicated that they are interested in hiring undergraduate students!



WISNOVSKY LAB - interested in working with undergraduate students

Cancer genetics; Tumour immunology; Cellular immunology; Glycomics and glycobiology; Chemical genetics; Systems biology; Cellular interactions (including adhesion, matrix and cell wall); Genomics; Cancer molecular targets; glycobiology; carbohydrates; Tumor immunology; Functional genomics; CRISPR screening; Glycomics; Biochemistry; Molecular Genetics; Cell Biology; Cancer

https://www.wisnovskylab.ca/

Upcoming Events

November 15th - Pyschostimulants with the Director

- Time: 2:30 - 3:30
- Sign up on Canvas:
- Currently, the remaining sessions for the term are full, but more opportunities will be available in January
- SIGN UP: https://canvas.ubc.ca/appointment_groups/14499

November 15th - Neuroscience Logo Due

Submissions for the Undergraduate Program in Neuroscience Logo are due today! The creator of the chosen logo will receive a $100 UBC bookstore gift card as thanks.

SUBMIT LOGO ENTRY

November 18th - DMCBH colloquium with Drs. George Augustine, Lim Kah Leong and Nagaendran Kandiah.

- Time: 11:00 - 12:00
- Venue: Rudy North Lecture Theatre, Djavad Mowafaghian Centre for Brain Health
- Zoom
  - Meeting ID: 99412 188589
  - Passcode: 188589
- "Synapses and synaptic circuits in health and disease" by Dr. George Augustine.
- "Neuroprotective and neurorestorative strategies for Parkinson's disease" by Dr. Lim Kah Leong.
- "Fluid biomarker and neuroimaging profile of mild cognitive impairment in Southeast Asians" by Dr. Nagaendran Kandiah

Upcoming Events - Part 2

November 23rd - Journal Club #2 with Dr. Steven Barnes

- Time: 6:00 - 7:00 pm
- Location: TBD
- Paper: A Permanent Change in Brain Function Resulting from Daily Electrical Stimulation (Goddard, McIntyre, and Leech)

RSVP FOR JC #2

November 25th - Dinner with a Prof (UNC)

Ask your questions to profs in neuroscience, cognitive science, clinical research, and biology!

- Menu: Bolognese Rigatoni for the meat option and Rose Radiatori for the vegetarian option - all from Jo's Italian Deli!
- Time: 6:00 - 8:00 pm
- Tickets will be $5 for club members*, $10 for students who register to become members, and a non-club membership fee of $15 for students who do not wish to pay membership.

RSVP

NEUROSCIENCE PROGRAM RESOURCES

OFFICE HOURS: STEVEN AND RYAN

You can sign up for appointment times with either Steven or Ryan via the Neuroscience Student Guide canvas calendar. Email them if you'd rather meet in-person.

RYAN'S OFFICE HOURS

EMAIL

STEVEN'S OFFICE HOURS

EMAIL

WELLNESS RESOURCES:

The UBC Psychology Graduate Program has an excellent list of diverse wellness resources. I've linked them below.

WELLNESS RESOURCES

WRITTEN AND DESIGNED BY ADI SWARO AND SHARON SHRESTHA

11/15/2022

QUESTIONS/CONCERNS/INQUIRIES:

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