



McGill's Biochemistry Undergraduate Society

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President

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Who are we?



BUGS Council 2023-2024!

- A council of 18 members acting as a liaison between the Biochemistry department and the student body.
- We communicate news, host both academic and social events, while providing support to all members of this program.



What do we do?



Organize events & programs to develop an engaging and supportive Biochemistry community.



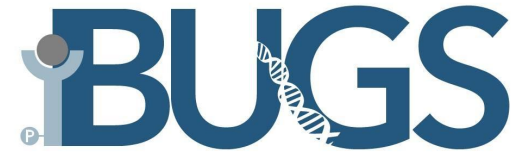
- Social gatherings
- BUGS Welcome Back BBQ
- Career Symposium
- Research Awareness Day (RAD) with showcases from undergraduate students
- Cabin in the Woods Retreat
- Convocation celebration events
- Biochemistry Undergraduate Mentoring Program (BUMP)



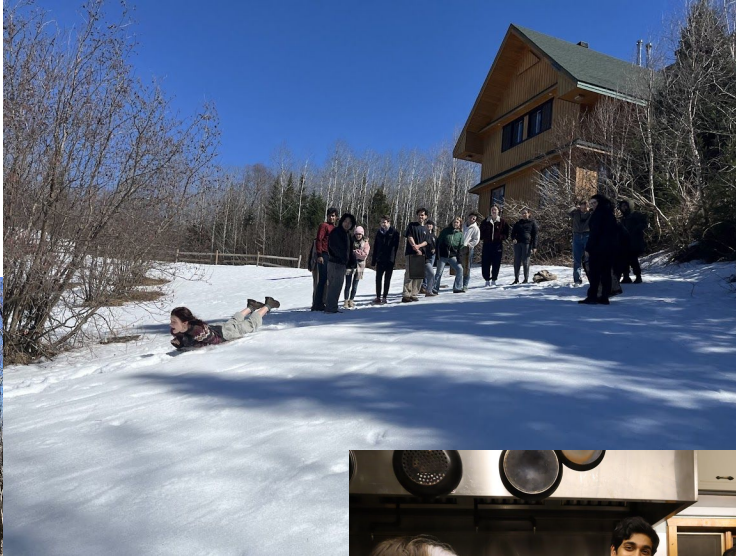
BUGS

Social Events

Welcome back BBQ!

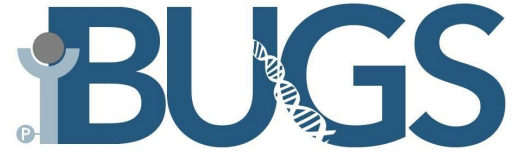


Cabin in the Woods



End-of-year Gala

Murder on the Dance Floor 2024



More Fun Social Events!



Science Games



U2 Trivia Night!!



Casper Crawl (Halloween Event)



More Fun Social Events!



Gerts Game Night 🎲



SUSANs (SUS Awards Night)





BUGS

*Academic
Events/Programs*

Research Awareness Day (RAD)



Career Symposium



The Biochemistry Graduate and Undergraduate Student Societies invite you to

CAREER FEST

**Tuesday
Feb 20
5-6pm** **Virtual panel**
Exploring careers in the biotech and pharmaceutical industries

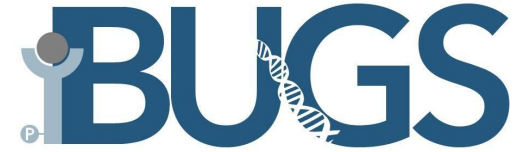
**Wednesday
Feb 21
5-6pm** **Virtual panel**
Beyond the lab: science communications, literacy and administration

**Thursday
Feb 22
5-7pm** **In-person panel & Wine and cheese**
Navigating careers after a degree in life science & Networking wine and cheese



BUMP

Biochemistry Undergraduate Mentoring Program



- Mentorship program that matches new U1 students with upper year Biochemistry students
- Make friends! Get help with classes! Get help finding research!
Get advice on how to navigate the program!



NTCs (Note Takers Club)



- Organized by U-Representatives
- Sale of high quality notes as a study tool for all required BIOC courses!
- Volunteer NTC writers are paid for their work!

BIOC 312

Lecture #3- Eukaryotes Transcription

Dr.Giguere- January 12, 2023

Definition and key concepts

- Transcription= RNA Poly 1, 2, 3, use DNA as a template to make complementary RNA
 - Each has a specialized function
- Most genomic DNA does not encode proteins
- Genes in eukaryotes are interrupted by intervening sequences called "introns"
- Transcription regulation underlies all differential gene regulation
- Even though only 2% of the genome is transcribed, 70-90% is transcribed by RNA polymerase
- Non coding RNAs (ncRNAs) usually regulate gene expression
 - Ex) Enhancer RNA

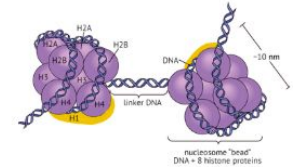


Figure 1. Structure of DNA wrapped in histone octamer

Control of Gene expression

- DNA template in eukaryotes is wrapped in nucleosomes so access to chromatin by transcription factors is more difficult
- Introns= Intervening sequences that disrupt genes and don't code for proteins
- Enhancers can be far away from the core promoter, at both 5' and 3' and also within introns
 - Needed because most promoters are weak

Initiation of transcription

- Core promoter is an anchor for general transcription factors (GTFs)
 - GTF bind in the nucleosome
 - Rapidly diffuse through nucleotide and transiently bind to chromatin looking for binding sites

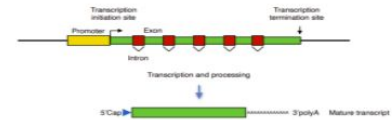


Figure 2. Structure of a gene



BUGS

Charity Events

Student Research Award



- Krispy Kreme donut or samosa sales to raise money for a research grant!
- Seeds of Change and McGill24 (a major McGill fundraiser) to raise money
- In the past, ~\$1000 awarded to two biochemistry students to fund summer research





U1 Events/Opportunities

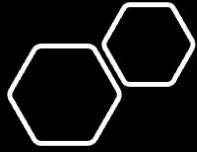
Events/Opportunities for U1 Students



- Biochemistry Undergraduate Mentorship Program (BUMP)
 - Begins mid-September
- Welcome Back BBQ (September)
- U1-specific social events
- U1 Representative Applications!
 - Great leadership opportunity, make friends, be involved in the council

Resources:

- BUGS Listserv emails for event announcements/opportunities
- BUGS Instagram
 - [@bugs_mcgill](#) (Linktree in bio!)
- BUGS Facebook
- Lecture announcements from U-reps
- BUGS Website
 - bugs.sus.mcgill.ca
- Biochemistry Faculty Emails
- SBMS newsletter: The Beaker Bulletin!



Join the
Biochemistry
Under-
Graduate
Society!

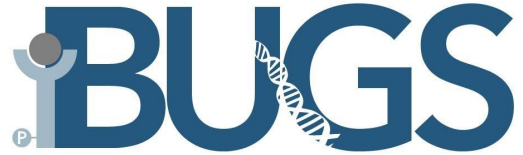
Reach out to
bugs@susmcgill.ca
for more information or any
questions!

Appointed positions in Fall 2024:

- **U1 Representative (x2)**
- VP Design
- SBMS Representative
- IHI Representative



Tips/Advice



- BIOC 220/320 courses are demanding, so plan ahead and schedule accordingly.
- Fill out course evaluations! Changes come from student feedback
- You always have the right to view an exam, reach out to the course coordinator if you have any questions.
- Don't rely only on recordings, go to class in person

Contact Us



Don't hesitate to reach out!

- Email: bugs@susmcgill.ca
- Instagram: @bugs_mcgill
- Facebook: BUGS McGill
- Website: bugs.sus.mcgill.ca
- Office in McIntyre Medical Building **room 510** (5th floor)
 - Visit during office hours (posted online)



@bugs_mcgill

Q&A with BUGS