### FIRST EDITION

# A MCMASTER ENGINEERING SOCIETY PUBLICATION

# Where should you eat on campus?

Find out our top picks and hot tips.

### **Percent Women**

We talk to WIE and Dean Heather Sheardown about this historic year.

### Everything you need to know about EngCord!



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# LETTER FROM THE EDITORS

Dear Fireball Family,

We hope you are all enjoying the colourful leaves on campus as much as we are! It is so exciting to see new and familiar faces around too. Our names are Adrienne and Ansh and we are your Frequency Editors for the 2022-23 school year. Adrienne is in her final year of Engineering Physics, and enjoys running and camping in her spare time! Ansh is in his third year of computer engineering.

In this edition, we discuss some major accomplishments in the McMaster engineering community. We recently reached a milestone in gender representation, with 40% of our incoming engineering students being women. We discuss this milestone with the first female Dean of Engineering, Heather Sheardown, and the Women in Engineering President. We also highlight the success of McMaster Engineering graduates in the James Dyson Award contest.

Our writers also put together two articles that will hopefully provide valuable insight and resources for the upcoming school year. We chatted with the creator of the Eng 1 Discord Server to learn about how it can help fellow students! We also reviewed different food options on campus.

If you have any comments, questions or concerns about our content, you can reach us at frequency@macengsociety.ca.

Enjoy!

Adrienne Scott & Ansh Tiwari Frequency Editors







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# MEET THE TEAM!

### Faaria Khan

Program: Level 5 Engineering Physics and Biomedical Engineering

Hey readers! I'm Faaria, one of the writers for the Frequency. Random facts about me that you didn't ask for are that I'm an avid foodie, I don't have an attention span long enough to watch movies but will happily binge an entire television series and I use WAY too many exclamation points in my everyday life!!!!!!

I joined The Frequency because after 5 years of engineering I missed expressing ideas and opinions with words rather than equations and numbers.





Program: Level 5 Software and Biomedical Engineering

In my free time, I like to hike, build puzzles, and knit. I also love to do escape rooms and go on food adventures with my friends. I enjoy walking everywhere, whether it's a quick trip to get some bubble tea or a long trek to see a waterfall.

Alicia Tran

I joined The Frequency because I wanted to take part in something that was different and not as technical as my classes and other extracurriculars. I wanted to do something creative, and the Frequency was the right place to do so.

### **Tenzin Youtso**

Program: Level 2 Electrical Engineering and Management

Hi! My name is Youtso and I'm one of the graphic designers for the frequency. I enjoy reading, going on walks, and going to karaoke with my friends. Right now, I'm super into Game of Thrones and HOTD.

I joined The Frequency because I was determined to try all sorts of new things this year and I thought being a graphic designer would be a great way to stay creative during the school year.





## Atoosa Berenji Kalkhoran

Program: Level 4 Mechatronics Engineering

Hi I'm Atoosa. In my free time, I love to hike, cycle, watch anime, paint and read.

I was always interested in painting and drawing. I wanted to learn how to do graphic design and explore my creativity and that's why I joined The Frequency.





### **Vanessa Winney**

Program: Level 2 Chemical and Biomedical Engineering

When I am not spending my time studying, my interests include running, hiking, cooking, and baking. I love trying out new recipes, especially different types of creamy or cheesy pasta. I am an avid coffee lover and spend way too much time trying to make the perfect latte.

I joined The Frequency because I enjoy working on creative projects outside of class. Being a graphic designer gave me a creative outlet and although I have never been an amazing writer, being a part of a newspaper/magazine was always something I was interested in.

## Noura Elsabagh

Program: Level 2 Electrical Engineering and Society

During my free time outside of studying, I enjoy listening to music such as Kendrick Lamar, SZA, J Cole and Kanye. I am a big SZA fan, so I am yet to go see one of her concerts! I also enjoy going out with my family on hikes, trips to the mall, and restaurants. I enjoy fashion and I like to change my style occasionally!

I joined The Frequency I wanted to contribute to MES in any sort of way through my years here at McMaster, as well as having a non-technical extracurricular! Frequency is a community in which I can be expressive and creative with my writing.





# A National James Dyson Award Winner By Ridah Arshad

Every year, the James Dyson Foundation grants the James Dyson Award to design and engineering students across the globe in 27 different countries. Eligible students submit their solution that targets a specific issue, whether it be an aid for individuals with disabilities or an environmental solution that lowers carbon emissions. Unfortunately, the prizes do not consist of a Dyson V11 Torque Drive or a Dyson Airwrap. However, students can win up to \$45,000 at the international level and/or \$8500 at the national level. In this year's competition, four of our very own McMaster Engineering graduates won the Canadian James Dyson Award: Afeef Khan, Caitlin Kuzler, Clavton MacNeil and Eden Lazar. Their invention is named Taco as a tribute to one of their earlier iterations.

TACO

The motivation behind the device comes from an encounter with a resident of a senior's home living with Parkinson's disease. Her name was Beatrice, and even though she enjoyed being in the kitchen, her illness made it difficult for her to cut her food with a knife. Individuals with Parkinson's often experience impaired coordination, tremors, and muscle stiffness, which make cooking a safety concern. This inspired them to try and increase the independence and autonomy of those living with illnesses like Parkinson's by making cooking a more accessible activity.

first five being 3D printed, before it became the sleek and simple assistive device that won the award. The lightweight yet sturdy design consists of two hollow stadiums that have a very narrow slit in the center and an outward curve at the top (see photo below). The outward curve allows for easy insertion, while the minimal distance between the two parts allows for the safe and proper guidance of the knife. Finally, at the bottom there is a flat plate which can be seamlessly connected to cutting boards of varying thicknesses. The materials used include rubber and stainless steel, both contributing to the stability of the device. The knife can then cut through any item as one typically would, however the grip of the Taco guides the knife, making the cutting process smoother and more efficient.

Taco went through seven iterations, with the





The success of McMaster students in the competition was not limited to Taco. Polyformer, a device that recycles plastic bottles into 3D printer filament, was one of the National Runners-up. One member of the Polyformer team, Swaleh Owais, is a recent McMaster engineering graduate, who spent some time working at a makerspace in Rwanda. While working overseas, he noticed a lack of two things: plastic recycling systems, and individuals participating in 3D printing at the makerspace, largely due to the high cost of filament. Polyformer solves both problems, creating cheap filament while simultaneously getting rid of plastic waste.



The Polyformer was a National Runner-Up.

The team set out to create a compact, 3D printed design which first cuts a bottle into one long strip using a bottle cutting mechanism. The plastic is then heated in the extruder which allows the strip to be molded into filament as it goes through a nozzle. Finally, air cooling solidifies the filament into its shape, which is then wrapped around the spool using a motor and gear train.

The two bright inventors of Polyformer already have plans to distribute the device at labs in Rwanda. They hope to expand to other countries in the future.

Both Taco and Polyformer are incredibly unique and creative devices that can serve to inspire future McMaster innovators. It is wonderful to see former McMaster engineering students making their presence known in such a prestigious competition!





The design evolution of the Taco.



# A Landmark Year for Women in Engineering By Alicia Tran

McMaster Engineering has recently reached two major equity milestones – 40% of incoming undergraduate students are women and we have our first female Dean of Engineering. Dean of Engineering Heather Sheardown and McMaster Women in Engineering (WIE) Society co-president Shayna Earle offered their thoughts on these milestones and encouraging more women to pursue engineering.

### Dr. Heather Sheardown, B.Eng., Ph.D. Dean of Engineering

#### What made you want to pursue engineering?

When I was in high school, medicine was the thing. It still is - if you're good at math and science, your high school teachers tell you to pursue medicine. But I had an amazing chemistry teacher who said to me, "Have you ever thought about engineering?" Engineering has everything - math, chemistry, and physics. It didn't have biology, but I ended up doing more biological work, so it had everything I loved all in one package. I get excited about geeky projects that people bring to me and listening to faculty members and students talk about their research.

#### You were the only female faculty member at McMaster Engineering when you became an Assistant Professor in 1998, and now you're the first female Dean of Engineering. How does it feel to be part of that progress?

I've championed women in engineering my entire career. I've always felt like it's important to be a role model and to show young women that this is a possible career pathway for them. It's been amazing to see the change and get women thinking about engineering. We're often told we lose them by grade 6, so we really want to get them thinking about science and engineering in grades 2-5. The change has taken quite a long time, but it's impressive what a group of schools have done just by thinking, "let's put this in the minds of students."



You said you'd like to see the percentage of female engineering students reach 50%. What do you plan to do to make this happen?

We'll keep doing what we're doing. Role models are important, i.e., having female faculty members and females out there that are engineers. We'll take advantage of our graduates and do stories about them to hear about the amazing things that they're doing.

# Why do you think more female students have decided to pursue engineering, both at McMaster and in general?

The iBiomed program is huge in that – the program is around 60% female. Many girls are more attuned to social issues and want to have careers where they're making a difference. Another part of it is getting young women thinking about the importance of having our voices at the table as we move forward with technology. We create technology and sometimes we make it because we can, not because we should. That's an important piece and young women are starting to become aware of that.



#### Shayna Earle, 5th year Chemical & Biomedical Engineering student Co-president of McMaster WIE

# As a student yourself, what made you want to pursue engineering?

In all honesty, I wasn't sure what I wanted to do – I knew I liked the sciences, but I didn't want to be a scientist, so I just looked at all the things that were possible. I came to McMaster for the iBiomed (Integrated Biomedical Engineering and Health Sciences) program since I could decide whether to go into sciences or engineering after an open first year. When I tried everything in first year, I absolutely loved IBEHS 1P10 because we got to create things. That was when I knew engineering was for me.



### Can you tell me a little more about the McMaster WIE Society? What does the society do? What are its values/goals?

Our society represents the full faculty of engineering: iBiomed, Eng1, BTech, and CompSci. We work for women-identifying and non-genderconforming individuals, although anybody is welcome at our events. We have 5 main pillars: mentorship, social, outreach, professional development, and diversity and inclusion. We want



to find a spot for all individuals to feel represented, supported, and empowered through their education and have a safe space to make connections, but also gain opportunities that they may not always be privy to in terms of professional development.

Our mentorship program is one of our most popular initiatives, just because people like talking to somebody who has already been through the same experience (lots of wholesome vibes). Professional development is also something we're trying to push because less women are in robotics or similar technical activities in high school, so these events help level the playing field.

It's super exciting we're at 40% of incoming firstyear undergraduates being female. Because it's significantly less likely that peoples' voices are muted, it is such a huge milestone to see that there is going to be more of a community.

# What activities/events do you have planned for the year that you'd like to highlight?

A huge event we do is a joint conference in January with National Society of Black Engineers (NSBE) and Engiqueers. It's a diversity-based conference to learn and get resources and is overall a nice intercommunity event. We also do social and professional development events every month, so follow our Instagram at @mcmasterwie!



# Everything You Need to Know About EngCord

### **By Noura Elsabagh**

What is EngCord? EngCord refers to several engineering discord servers that exist to help incoming first years with classes, club opportunities, Q&As, and additional resources that were created by upper-years.

As a new class of engineering students comes to McMaster, many students are not aware of these servers, which is why we have written this article!

Entering university can be an overwhelming time with so many questions. These Discord servers were created for the incoming Engineering 1, iBioMed, B. Tech, and Computer Science students. The servers are active 24/7 with upper year moderators answering questions and giving out tips and guidance all throughout the year. The Engineering 1 server has past edition textbooks, past tests, streamed help sessions, active assignment help, and a friend-making community.

The Discord server is also a great place to ask about streams and stream selection. Upper-years can share what their streams are like, and offer helpful advice and tips. If you are worried about choosing streams, asking an upper-year can help.

### **Meet a Discord administrator!**

Meet Yuxi Qin, one of the administrators for the Engineering 1 '25 Discord server!



# Why was the McMaster Eng'25 Discord created?

The McMaster Engineering '25 Discord was originally created by two upper-years in May 2021, and was meant to be a common space for all Engineering 2025 students to collaborate and make new friends. Since we were already chronically online due to COVID, the server thrived as students piled in from r/McMaster, word of mouth, and McMaster's official 2025 server.



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A community was quickly established throughout the summer and student moderators were assigned. From there, it became a hub for coursework collaboration, social events, club opportunities, affiliated servers, and above all, meeting new people within your program. A similar McMaster Engineering '26 Discord server was created by three student moderators for this year's students, where it can hopefully act as the same space for collaboration and communication as it did for us.

### What resources have been provided throughout the year?

There's a huge mix of academic, administrative reminders, and social resources/opportunities that are shared within the server. Please note that academic integrity was upheld for all graded assessments, and that the server was locked down for all midterms and final exams. Most academic resources came in the form of Google Drive links to past midterms, exams, homework solutions, and textbooks as supplied by upper years, as well as notes, formula sheets, and GPA trackers from others. As the year progressed, however, students began taking the initiative to lead help sessions (https://youtube.com/playlist? <u>list=PL5u1Cb0EcH4vl3bSKqk9kLEi2JHo4cO4P</u>) in preparation for major assessments in every Engineering 1 course, which was a great act of collaboration. It's easy to lose track of administrative tasks beneath the schoolwork, which is why there were announcements to

remind students about fees, assessment dates, and solutions to common McMaster problems (there's a lot!). Extracurricular opportunities such as MES events, application deadlines, and club events were also shared in a dedicated channel.

#### How to access the servers

Engineering 1 Server Link: <u>https://discord.gg/YBjr72dtCe</u> iBioMed Server Link: <u>https://discord.gg/jzbbP5fpCY</u>

If the above links do not work, you can access the McMaster University student Discord hub, and search for Engineering 1 (26/27), and Integrated Biomedical Engineering and Health Sciences.

Servers Available for Specific Streams: Electrical/Computer Engineering Server: <u>https://discord.gg/YyADdGSMZx</u> Mechanical Engineering Server: <u>https://discord.gg/hdRef9Swrc</u> Software Engineering Server: <u>https://discord.gg/DFv8QgrNWv</u> Civil Engineering Server: <u>https://discord.gg/8bjqCYUEeK</u> Chemical Engineering Server: <u>https://discord.gg/huZYSQRdKT</u> Mechatronics Server: <u>https://discord.gg/2sdCRWf7pB</u> Engineering Physics: <u>https://discord.gg/NGpqxyTZbK</u> Computer Science: <u>https://discord.gg/TYQwWg8d2s</u> Or access these servers using the McMaster University student discord hub..



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## Mac's Declassified Food Survival Guide

Welcome to the fall term new (and existing) Marauders! If vou're new to **McMaster** Engineering, I'm sure you've already begun to notice the ways in which university is different from high school. For instance, the massive class sizes, heavier workload and freedom to manage your own time. However, one major difference that gets overlooked because it doesn't happen inside the classroom is mealtime! You will no longer find yourself eating your meals at the kitchen table but rather at one of the many oncampus hospitality offerings. Now wait- with great meal plan comes great responsibility. The responsibility lies in not burning through your meal plan money before Christmas.

This food survival guide rates the hospitality offerings Yelp-style in terms of price, menu options and likelihood of finding some extra \*protein\* at no charge whatsoever. Note: these rankings are completely subjective. By Faaria Khan







# BISTRO ☆☆☆☆

Bistro, unlike its Parisian etymology, is located on the first floor of Mary E. Keyes and is the most upscale setting you will find on campus (and the prices reflect this). Bistro features weekly specials, and is characterized by plenty of dining space where you can sit with friends while you wait for your guest pager to buzz.

The various counters serve menu options from around the world – you can enjoy Indian, Mexican, and Chinese cuisine. In addition to cultural diversity, hospitality services has ensured that there are menu options that are vegan, vegetarian, allergen safe or meet religious dietary needs. But be warned, beyond this, making modifications or substitutions to your meal likely won't happen and despite having lots of menu options, many of them are hit or miss. Speaking from personal experience, the chicken is often bland and under seasoned, anything with rice is usually a mountain of rice, and whatever you do, do NOT get the mac and cheese!

# BISTRO2GO ☆☆☆

Formerly known as Mini Mac, Bistro2Go gives off some serious 7-Eleven vibes, which is ironic because it's right beside upscale Bistro. Nevertheless, Bistro2Go is awesome for the price, convenient as it closes pretty late, and gives you easy access to snacks to stock up on. You can even find Bistro food here at a discounted price... but it's not quite the same as the real deal.

Most of the menu options consist of handhelds and because you can watch them make your food, the staff are pretty receptive to making modifications or substitutions to your food. Unfortunately, if you're gluten free, the only thing safe to eat here is a breakfast hash brown.









# CENTRO ☆

Centro is located on the second floor of Commons, making it partially inaccessible. To get to Centro without stairs, you will require the Commons lift which requires a key from the info desk. If you live in Brandon Hall, you're in luck, you can access Centro through the tunnel in the basement. Centro consists of 7 stations, of which some highlights are SMPL, Pas Noodle and Plantry. SMPL consists of balanced meals made without the majority of

common allergens and always has a vegetarian option. The beauty in SMPL is that the menu is updated pretty frequently so it is always worth trying. Pas Noodle lets you curate a pasta or noodle bowl from various vegetables, proteins, sauces and even pasta shapes (yes the pasta shape affects the taste). Plantry menu options are pretty limited and consist of Beyond Meat, but they do offer a smoothie bar of which you can add protein to, making this a good pit stop before or after a workout.

Speaking of protein... Centro is notoriously known for it.



# LA PIAZZA ☆☆☆

LaPiazza is in the McMaster University Student Centre (MUSC) and is by far the busiest offering on campus as first years and upper years alike are found purchasing food here. La Piazza is also the second most expensive offering on campus, likely to capitalize on the high amount of foot traffic.

Here, you'll find a Pizza Pizza counter for slices, but in my opinion a better bang for your buck are the mini Pizza Pizza pizzas (wow 3x!) found in the IAHS café.

If you're someone who craves variety, you'll find many diverse options, including Bridges, Tazij, and Global Comfort Food, that has a new vegetable or potato dish on a rotating basis. On the other hand, if you're craving something homegrown (that is your new home Hamilton!), Steeltown Grille sources ingredients from local Ontario farmers.













I hope this article helps you make some informed meal plan decisions. Other mealtime survival tips I wish I could share with my first-year self are to always eat breakfast (as cliché as it sounds, it is the most important meal of the day), find a way to include greens into your diet, and do not buy Booster Juice everyday. With that in mind, happy snacking and studying Marauders!









