

THE MONOGRAPH

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The Voice of the Pharmacy Student



Photos Courtesy of PHARMAKON

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CO-EDITORS' NOTE

Welcome Back Pharmacy!

We hope you had a restful and well deserved break!

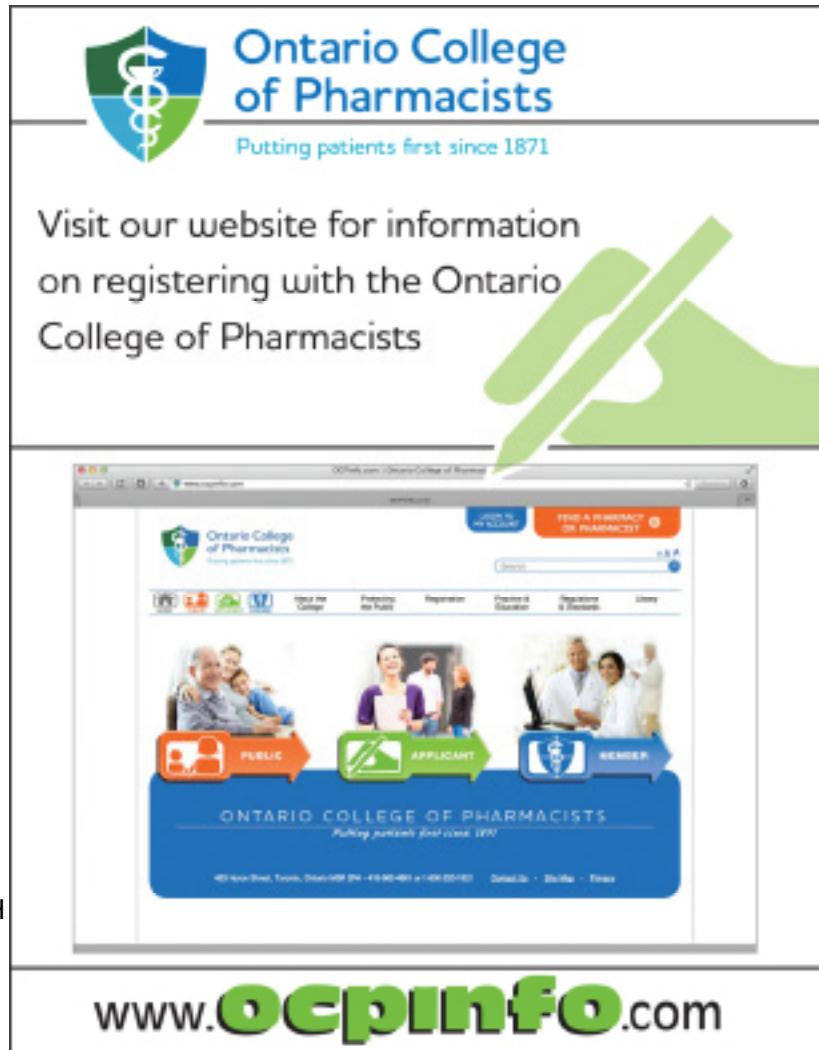
The year has started on an exciting note as many students took part in the always highly anticipated Professional Development Week (PDW)! Check out the CAPSI Corner for all the highlights of PDW! As always, there is an array of interesting and insightful articles that we hope won't distract you too much from your studies! Need perspective on New Year's Resolutions? Wondering what all the hype for "The Revenant" is about? Or perhaps you want to expand your cuisine skills? WE GOT IT!

Special thanks to our wonderful Staff Writers and contributors who submitted to this issue of The Monograph. Feel free to send us your submissions any time at monograph@uoftpharmacy.com

See you next issue!

Sandra Wood and Yumna Ahmed

Co-Editors, The Monograph
Undergraduate Pharmacy Society
University of Toronto - Leslie Dan Faculty of Pharmacy



The image features the Ontario College of Pharmacists logo at the top left, which includes a shield with a caduceus and the text "Ontario College of Pharmacists" and "Putting patients first since 1871". To the right of the logo is a large green graphic element. Below the logo, text reads "Visit our website for information on registering with the Ontario College of Pharmacists". A screenshot of the OCP website is shown, featuring a navigation bar with links like "About Us", "Join Us", "How to Register", "Contact Us", and "Log In". Below the navigation is a banner with three icons: "PUBLIC" (orange), "APPLICANT" (green), and "MEMBER" (blue). The main content area of the website displays the text "ONTARIO COLLEGE OF PHARMACISTS" and "Putting patients first since 1871". At the bottom of the website screenshot, there is contact information: "401 Queen Street, Toronto, Ontario M5B 1H1 • 416.962.4661 x 1400/15100" and links to "Details", "Mobile", and "Fax". At the very bottom of the image, the URL "www.ocpinfo.com" is displayed in a large, bold, green font.



Welcome back pharmies!

We hope you all had a relaxing and enjoyable winter break. Starting the winter term in Niagara Falls was an excellent way to kick off this semester! Since we had so much fun at PDW, we decided to provide you with some insight on additional conferences you may want to attend this year.

Pharmacy U Conference – February 6th 2016 (Toronto)

The Pharmacy U is a business-focused conference. It provides attendees with the opportunity to learn how to thrive in community pharmacy, market new services that meet the needs of specific patient populations, and meet leaders in the pharmaceutical industry. Delegates are selected by a lottery organized by UPS in late December or early January of each year. If you didn't get a chance to attend this year, keep your eyes open for sign-ups next year!

Cost: \$155 (Early Bird Special) - \$310 (Regular Rate)

Funding: 15 FREE student registrations donated by Pharmacy U and UPS

OPA Conference – June 9th to 11th 2016 (Toronto)

This is one of the most educational conferences, which offers the most insight into how pharmacists can practice at full scope. Delegates at the OPA conference are inspired to grow in their profession. It's also an excellent opportunity to network with current pharmacists! To attend this conference at the extra early bird rate, register through the OPA website between March 1st and April 8th. This year's conference is especially exciting, as it will also serve as a celebration of the OPA's 50th anniversary!

Cost: \$350 (Student Member, Extra Early Bird Rate) - \$450 (Student Member, Regular Rate)

Funding: UPS subsidy of \$4,000 to be split amongst all attendees

Shoppers Drug Mart Pharmacist Conference – October 2016 (Toronto)

Shoppers Drug Mart hosts a conference for their pharmacists each year. This conference has one of the most positive and fun atmospheres. In addition to being a learning opportunity on how to enhance patient care, it's an opportunity for pharmacists to enjoy themselves and maybe even sing some karaoke! Shoppers Drug Mart runs a contest to select student attendees from across Canada and UPS will relay contest details to you. Applications are usually due in early August. Only students selected through the contest are able to attend.

Cost: \$0 (Transportation, accommodations and registration covered)

Funding: Shoppers Drug Mart

Ontario Pharmacy Student Integrative Summit (OPSiS) – March 2017 (Niagara Falls)

This conference will not be taking place in 2016, as Waterloo hosted PDW this year, but we had to include it, as it's one of our absolute fa-

Student of the Month (November) – Marina Simeonova (1T8)



Ever since she ran across the entire Lakeshore during the Phrosh visit to the CNE to ensure all students had their tickets, Marina has gone above and beyond for others. Through initiatives such as the "Couch to 5K" running group, the "Shoebox Project" for women living in homeless shelters, and "Motivational Posts" during midterms, she has led improvements in the lives of others. Her words of encouragement have provided support to her classmates and lifted morale when it was needed most. For supporting those around her through a multitude of initiatives, the UPS has selected Marina as the Student of the Month for November!!

Student of the Month (December)– Phillip Kim (1T7)

vourite conferences! OPSiS is organized by the two pharmacy schools in Ontario and offers students the opportunity to collaborate with future colleagues. In addition to working together to compete in case competitions and debates, delegates get to know each other through social nights! Potential delegates complete applications in January. Applications from UofT students are then reviewed by Waterloo's student society (SOPhS) and UPS reviews applications from Waterloo students. Six students from each year are selected to attend from each school.

Cost: Minimal to no cost to delegates

Funding: UPS, David White and the Enhancing the Student Experience Fund

If you'd like to discuss these conferences further, please feel free to email us.

Enjoy!

Tiana & Shane

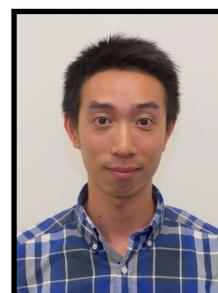
Calendar of Events – January 2016

- 6th-9th: **Professional Development Week** (Niagara Falls)
 - o Hosted by the University of Waterloo
- 15th: **McKesson Lunch & Learn** (PB B150)
 - o 1:00 pm – 3:00 pm
- 15th: **SIF Winter Deadline**
 - o 5:00 pm
- 18th: **Dodgeball Tournament** (Hart House)
 - o 11:00 am – 12:00 am
- 19th: **UPS Constitution Meeting** (PB 850)
 - o 6:00 pm – 9:00 pm
- 25th-29th: **UPS President, UPS Vice-President and Residency Rep Nominations**
- 27th: **OPA Dinner & Learn**
 - o 6:00 pm – 8:00 pm
- 30th: **Hospital Residency Information Session** (Sheraton Centre Hotel)
 - o 12:30 pm – 6:00 pm

Calendar of Events – February 2016

- 1st-3rd: **UPS President, UPS Vice-President and Residency Rep Campaigns**
- 2nd: **UPS Dean's Meeting**
 - o 8:00 am – 9:00 am
- 4th: **UPS President, UPS Vice-President and Residency Rep Voting** (Online)
 - o 9:00 am – 5:00 pm
- 6th: **Pharmacy U Conference**
 - o 8:30 am – 5:30 pm
- 8th-12th: **CAPSI Social Media Challenge**
- 10th: **OPA Dinner & Learn**
 - o 6:00 pm – 8:00 pm
- 15th-19th: **Reading Week**

Student of the Month (December)– Phillip Kim (1T7)



As a student leader for Perrier House, Phillip has encouraged his classmates to get involved in the House Program. He proactively reached out to many students, encouraging them to participate in the PharmaPhacts Pre-Bowl. Additionally, he created numerous questions for the event and ensured it ran as smoothly as possible. Furthermore, as one of the leaders on the Dragon Boat team, Phillip is always motivating and challenging others to continue their rigorous workout regimen and to strive to be at their best. For supporting those around him and encouraging everyone to participate, the UPS has selected Phillip as the Student of the Month for December!

Faculty Clubs Bulletin

UPS Athletics - Intramurals and More!

OPA Cup - March 13th

The rivalry between the two Ontario pharmacy schools has gone on for ages. The OPA Cup is the yearly event to determine which school reigns supreme for the year. Last year, Waterloo came to UofT in hopes of claiming that title, but the UofT hockey team proved too much and was able to defend their home turf and reclaim the title. This year we will invade the campus of Waterloo Pharmacy to defend our title as Pharmacy Hockey Champs. Come out to the pep rally at the Pharmacy Building before we head off to Waterloo to cheer on our team to victory. Be on the lookout for the FB event page which will detail information for the pep-rally, buses to and from Waterloo, and other event information. We look forward to seeing a huge UofT Pharmacy turnout!

UPS Cup - Dodgeball Jan 18, 2016

This is the last of the 3 events that will determine which class gets to claim the UPS Cup. Come out to the Hart House Gym and engage in some friendly class vs. class dodgeball.

Male Sports

Basketball

Captained by Komail Nadeem - With Toronto hosting the NBA All-Star game this year, why not come out and practice your moves and play for the pharmacy team this semester? Bring your sneakers and your pharmacy jersey and come shoot some hoops.

Ice Hockey

Captained by Michael Briganti - The great Canadian sport. In addition to playing to win the intramural championship, the hockey team will also use their



game time to prepare for the OPA Cup. If you have any hockey experience or have equipment, then come out and join the team this semester.

Lacrosse

Captained by Caroline Colozza - Lacrosse is a new intramural for this semester and for pharmacy in general. No prior experience is required and equipment (sticks and helmets) will be provided. If you have any equipment of your own or that you could acquire (e.g. hockey/lacrosse gloves), it would be greatly appreciated. Come out and have a great time.

Soccer

Captained by Harry Kang and David Tom - The international game. Every country plays it and it is one of the easiest sports to pick up but it is also very rewarding. Grab your sneakers and get your cardio going this semester with men's soccer.

Volleyball

Captained by Jerry Boun - As a team-oriented sport, volleyball helps build great communication and camaraderie. Bump, set, spike this semester and come out for some volleyball fun.

Women Sports

Basketball

Captained by Leigha Laporte - Coming off a strong fall season, they are always looking for new teammates, whether it be seasoned veterans or new players to the sport, to help their run for the title. Come out and enjoy a good game of ball.

Hockey

Pharmacy Representative Élise De Francesco - A combined team of Pharmacy, Medicine, and Nursing. An all-female hockey team that is always looking for interested female players to join the team (and maybe even having an all-pharmacy team with enough females in the future). If you have your own gear and an interest, then come on out this semester.

Soccer

Captained by Caroline Colozza - Grab your cleats/sneakers and come out to another exciting season of indoor soccer under the Varsity Field Dome. Indoor soccer is a smaller and faster-paced game that guarantees excitement and a cardio workout.



Volleyball

Captained by Deanna Caldwell and Melissa Taylor - Volleyball is one of those sports that really require a team effort to succeed. Being pharmacy students, we are already experts in working with others to achieve a goal. Come out this semester and transfer your pharmacy skills onto the court and help your team achieve the goal of winning the title.

Co-Ed Sports

Hockey

Captained by Trent Simmons - A new team this year, so if you have the Canadian spirit in you and have your own gear, then come on out and play for Pharmacy's team this semester.

Inner Tube Water Polo

Captained by Kyle Action - An exciting sport of dexterity, balance, strength, and watery fun. Inner tube water polo is a unique sport that is played in the Athletic Centre pool. Swimming ability is not necessary, only a sense of adventure is required. Come out and



splash a little water this semester.

Ultimate Frisbee

Captained by Kyle Acton and Ran Shu - A game that includes everything from full field passes, breath-taking dives, and intricate passing plays. If you are looking for an action-packed sport, this is it. The other great thing is that it is very welcoming to both experienced athletes and new players. Grab your athletic gear and come participate this semester.



Volleyball

Co-ed Div 1 - Pharmacy A - Captained by Quang Vuong

Co-ed Open - Pharmacy B - Captained by Leanne Kong and Joseph Blommesteyn

Co-ed Open - Pharmacy C - Captained by Nga Pham

Pharmacy is honored with 3 teams in Co-ed volleyball. If you are looking for a more competitive playing atmosphere, then try out for the Div 1 team. If you are looking to learn the sport or a more laid-back but still competitive team, then try out for one of our two Open teams. Grab your gear and head out there.

Male Athlete of the Month

This month's Male Athlete of the Month is **Kevin Tang** (1T7). He was part of 3 teams last year and alongside his teammates all 3 of those teams made the playoffs (Co-ed Flag Football, Ultimate Frisbee, and Co-ed Basketball). Kevin is a great teammate and leader for new players to sports. This semester, he will again help 3 intramural teams try and be competitive in the regular season and help them make a push for the playoffs (Inner tube water

polo, Co-ed Basketball, Ultimate Frisbee). Congratulations Kevin and good luck this semester to you and your teammates!

Female Athlete of the Month

This month's Female Athlete of the Month is **Jennifer Wang** (1T7). Jennifer is a multi-sport athlete and past UPS Female Athletic Director and helped create many new female intramurals. This year, she was part of Co-ed Basketball, Ultimate Frisbee, Women's Soccer, and Co-ed Flag Football. Alongside her teammates, all these teams had strong regular season and playoff runs. This semester, Jennifer will again participate in multiple sports, Co-ed Basketball, Ultimate Frisbee, Inner-tube waterpolo, Women's soccer, and Women's Basketball. With her competitive nature, she hopes to improve on last semester's results and help her teams win the title. Congrats Jen and good luck to you and your teammates!

IM Leagues - Attendance, Updates, and UPS Points

The easiest way to get updates, track stats, and record your attendance is by signing up for IM Leagues. Just go to www.im-leagues.com and sign-up today. If physical activity, demolishing opposing teams, and taking a break from studying weren't enough incentive to participate in intramurals, did you know that you also get UPS points for each game you attend? Intramurals are a great way to boost your point total toward prestigious awards at the year-end Awards Night. So come on out to the many intramurals that are offered this semester! Lastly, for more information check out the UPS Pharmacy website and click on the intramurals link under the Clubs tab for more information (Captain's name and FB group links). <http://uoftpharmacy.com/intramuralTeams.php>

We all look forward to a fun and physical semester!

Phillip Kim (Male), Élise De Francesco (Female) and Jonathan Mak (Co-ed)

Faculty Demonstrates its Generosity: UPS Charity Week 2015

By Erin Cincinelli, Class Vice-President (1T7)

Each year, UPS hosts Charity Week in order to "give back" to some well-deserving organizations. This year, Charity Week 2015 took place from November 9th to 13th and united students and faculty in raising funds for the Canadian Red Cross, Starlight Children's Foundation, Make-a-Wish Canada, and the Multiple Sclerosis Society.

Events included a delicious grilled cheese sale, trivia, a raffle draw, and, of course, the highly anticipated Professor Auction.



We raised a total of \$5444.09, making this one of our most successful Charity Weeks ever!

Congratulations go out to the Class Vice-Presidents, Valeria Sula (1T9), Sara Tawadrous (1T8), and Veeral Gohil (1T6) for their hard work and creativity in coordinating their class' fundraising efforts.

A special thank you to the sponsors of Charity Week 2015, whose support made this wonderful event possible!

3M Canada
Art Gallery of Ontario
Gregor Siteworks Ltd.
La Roche-Posay
McKesson Canada
Rogers Healthcare Group
Royal Ontario Museum
Shopper's Drug Mart Royal Bank Plaza
Silverstein's Bakery
Steelcon Fabrication Ltd.
Tiana Tilli and Erin Cincinelli
UMBRA Canada

CAPSI Corner! Highlights of PDW

By Areeba Zaheer, Senior CAPSI Representative (1T7)

and Maria Moreno, Junior CAPSI Representative (1T8)

Professional Development Week (PDW) was hosted by the University of Waterloo this year in the picturesque city of Niagara Falls. This conference is the largest student-run pharmacy conference in all of Canada, with over 600 delegates in attendance this year. There were some great talks on e-cigarettes, natural health products, probiotics, and mental health!

This year's Mr. Pharmacy Pageant was aptly renamed 'Canada's Next Top Pharmacist' to be gender neutral! We even had our first female contestant from Dalhousie (RxTina) who came runner-up! **Moe El-Salfiti** put forth a valiant effort, but unfortunately could not surpass the man of the night, Mr. Callun Kenyon from the University of Alberta who took the honours of the evening. Toronto's presence during the night could not be ignored as we had our very own Jamie Kellar who helped out as a judge! For those who may be wondering, Mr. Pharmacy will be re-named "Toronto's Next Top Pharmacist" at the local level and will also be gender neutral! The call out for applicants will begin very shortly, so stay tuned for further updates!

We'd like to recognize some great achievements at the National CAPSI Competitions! **Erin Cincinelli** placed first in the CAPSI Over the Counter Competition and **Kevin's Angel's** (**Kevin Tang, Amy**

Su, Bea Laset, Jennifer Wang) placed fourth in the Compounding Competition! This is a great accomplishment and we could not be more proud of our students!

Overall, PDW was a great learning experience for those who went, with many opportunities to socialize with students from across Canada! We hope you had some fun and were able to get the most out of your experience! PDW will take place in Winnipeg next year and the line-up for the conference sounds fantastic!



EVOLVE's Campaign of HOPE!

By Jeffrey Tso, EVOLVE Co-President (1T8)

Across Canada, the expanded scope of pharmacy is taking off. EVOLVE is bringing the HOPE (Humans Of Pharmacists' Expanded scope) back in full throttle. We aspire to document all the perspectives on the changing scope, from students to advocacy bodies. This year we've taken to PDW on a mission capture new stories and share our own as well. At PDW, we documented our very own 1T9 Sasha Farina's story and many others. Keep an eye out on our Facebook page and Instagram to hear about student reflections from Waterloo, Alberta and Quebec as well!

"Data from new research studies help dictate the evolution of new pharmacy practices. As pharmacists scope of practice continues to evolve, there is a strong interplay between research and clinical practice. They identify new domains of practice that would benefit patients and the healthcare system and in evaluating their efficacy over long term prospective and follow up studies. As someone with a clinical graduate degree in the field of hypertension management, I have witnessed firsthand the importance of research in directing new pharmacy practices. In Quebec, we have the Caution Hypertension program with Jean Coutu. It is an innovative system where pharmacists play integral roles in managing patients blood pressure with devices that have been validated with rigorous standards. The benefits of increased pharmacist involvement in hypertension management continues to be evaluated in research settings, particularly in Alberta. This data has been promising and

shown greater reductions in blood pressure, thus it is reasonable to suggest that pharmacists will eventually play an even greater role in hypertension management. Furthermore, as practices evolve, there is a need to inform healthcare professionals about these changes and to guide pharmacy practices. We are seeing this through more niche guidelines such as the Canadian Hypertension Education Program guidelines for Pharmacists. As the profession of pharmacy introduces the expanded scopes of practice, it is imperative that the next generation of pharmacists engage in research not only to evaluate which practices are the most effective and beneficial to patients, but to identify new frontiers in which pharmacy practices advance."

-Sasha Farina



Pharmacy Gives Back! PhaSST Holiday Initiative at Young Street Mission

By Sadaf Rai, PhaSST Class Representative (1T8)



The holidays are a time to give back to the community and as an annual tradition, Pharmacy Student Service Team (PhaSST) organized a Holiday Outreach Initiative for the second year. The event gave students the opportunity to volunteer at Young Street Mission at the Food or the Toy Market. From the overwhelming response we received, it is clear that the hearts of many pharmacy students grew three sizes for the holidays! Over 75 volunteers from Pharmacy participated in the Holiday Out-

reach Initiative in order to help those in need. It was amazing to see students guide parents in selecting gifts for their children or sort food to be given to families for the holidays.

Volunteers not only interacted with families but also staff and other volunteers from the community. One volunteer teamed up with a teenaged volunteer to help him step out of his comfort zone, give back to the community and have a great time doing so! Although it was tough to take time out of studying and exams to participate, every moment was time well spent considering how much it helped YSM employees and the joy that was brought to families. It was amazing to see students develop bonds and enjoy themselves while becoming more socially aware and compassionate as pharmacists.

PhaSST would like to extend sincere gratitude towards all students involved in the Holiday Initiative! Stay tuned for future PhaSST events to learn more about the community, develop meaningful bonds with individuals and develop skills that will better you as a future pharmacist.

What's Cooking with COMPPS?

Happy New Year Pharmacy!

Thank you all for your support, this past fall has been amazing! Events from last term included compounding workshops on topical creams/ointments and on lip balms/suppositories. We were also thrilled at the opportunity to compete in the Pharmacy Students for Cancer Awareness bake-off, with the Pharmacy community digging deep to support cancer research. Congratulations to the winners our most recent trivia contest, Bing Cheng and Shunzhi (Matthew) Chang. For the winter term, we are hard at work continuing to promote compounding pharmacy practice. Events still to come include: speed meeting with compounding pharmacists and/or formulation scientists, a tour of a pharmaceutical company in the GTA, and of course more workshops.

Keep up to date with all things compounding on our website compps.uoftpharmacy.com and follow us on Facebook at "learn-2compps".

Until next time, Keep Calm and Compound On!!
COMPPS Exec Team

Introducing the Pharmacy Awareness of Geriatrics Club!



Pharmacy Awareness for Geriatrics (PAG) is a newly founded student-run club that aims to advocate for and improve geriatric care for many seniors in the community by providing students the opportunity to explore, experience and understand this multidimensional field.

85 will quadruple. Although this demographic presents a challenge for a healthcare system designed to service a population with an average age of 27 in the 1960s, it also provides numerous opportunities for pharmacists and pharmacy students to make positive meaningful contributions to patient care at various practice settings. PAG will provide students with opportunities for extracurricular activities in the community to advocate for geriatric care and to prepare pharmacy students meet tomorrow's healthcare demands.

Why Geriatric Care?

It's estimated that over the next 20 years, Ontario's elderly population will double while the population of those specifically over

In fact, we recently asked you, the students, for some of the first words that came to your head regarding geriatrics during our Samosa Sale back in December. Many words, such as Meds-Checks, Outreach, Health Awareness and Blister Packs, indicate

Faculty Clubs Bulletin

that pharmacy students are actively seeking ways to better geriatric care from our profession's unique perspective. In addition, students also recognize certain holistic challenges associated with geriatric care such as Communication Barriers, Frailty, Dose Adjustments, and feelings of Loneliness or Helplessness.

PAG seeks to help students build upon these understandings, improve awareness of the many aspects of geriatric care, and ultimately provide the elderly community with the best patient care possible. In essence, through learning from current healthcare workers and through community outreach initiatives, our main goal as a club involves tying in education and philanthropy in hopes of improving senior care in any way that we can.

What are our upcoming events? Keep an eye for our delicious Hot Coco n' Cake Sale on January 15th during which we will be fundraising for the Alzheimer Society's Walk for Memories. The walk will be taking place on January 30th and all pharmacy students and staff are welcome to participate! See our Facebook Page for more information! In addition, PAG will be having a Interprofessional Panel Event in February, during which various health care professionals will come in and share their expertise regarding geriatric care. Lastly, in March, students will have the opportunity to visit local retirement homes and get involved within the elderly community.

To stay up to date with PAG events/news, Like our facebook page: <https://www.facebook.com/PharmacyAwarenessofGeriatrics/?fref=ts>

Or contact us at: pag.uoft@gmail.com

Stay tuned everyone!

-PAG Executive Team



Exec Members (Left to Right) - Natasha Dogra: Co-President; Jasneet Dulai: Co-President; Maggie Huynh: Marketing Director; Braden Nguyen: Education & Information Assessment Advisor; Sadaf Rai: Secretary & Finance Officer; Jessica Visentin: Events Coordinator; Nga Pham: Events Coordinator. (Missing:Taban Saifi: Education & Information Assessment Advisor; Arpit Shah: Graphics Lead)

Updates from OPA Council!

By Teegan Ignacy, OPA Student Board Member (1T6)



Advocating Excellence
in Practice and Care

Happy New Year! I hope you all enjoyed your break and have relaxed and eaten enough to get you through this upcoming semester. If not, OPA also has lots of exciting events and activities planned to keep you motivated. Firstly, I wanted to introduce the newest members of the OPA Council. The council consists of a class rep from each year who will be your go-to person for all things OPA! This year's reps are Onella Pereira (1T9), Elsa Purivatra (1T8), Jennifer Wang (1T7) and myself (1T6). Feel free to ask your class reps any and everything OPA-related!

As for events this semester, we have two methadone education sessions scheduled for January 27th and February 11th. Registration is open for both and info can be found at <https://www.opatoday.com/224090>. If you're interested in working behind the scenes at OPA, each reading week the association hires students to work in the membership department – more info to come soon! If pharmacy advocacy and policy is really your passion, the upcoming election for the UoFT Student Representative on the OPA Board of Directors will take place in February.

I've found this position to be immensely interesting and rewarding – again, expect more info in the coming weeks! Moving towards the end of the semester, we have the OPA Cup and the OPA Annual Conference! The OPA Cup, for those who may not know, is an annual hockey tournament between the Faculties of Pharmacy of UoFT and UWATERLOO. This year's event will be held in Waterloo on March 13th – it starts with a party (pep rally at PB) and ends with a party in Waterloo. Last but definitely not least, the OPA Annual Conference will be in Toronto this year! The conference is a great way to meet pharmacists and pharmacy students from all over Ontario and learn some practical pharmacy knowledge along the way.

Lots to get involved with in 2016 – see you there!

Teegan Ignacy
opa@uoftpharmacy.com

A Search for the Elusive “Pill” (for Men)

By Allison Barre, Staff Writer (1T9)

Everyone has heard of “The Pill”, the term used to describe female oral contraceptives, or birth control. This revolutionary medication has been a normal part of everyday life for women around the world for over 50 years, and since it came out in 1962, it was an instant success. In Canada, 62% of women between the ages of 15 and 30 who use birth control choose oral contraceptives as their main method, according to the Sex Information and Education Council of Canada.

However, contraceptive options for men remain limited – condoms and vasectomies. For younger men, vasectomies are seen as too permanent, so condoms are the number one choice. But what would happen if men had the opportunity to hinder their sperm in order to prevent unwanted pregnancy? Right now men don’t have this option, but some researchers are trying to change that.

A way to create male oral contraceptives has actually been in development since the 1970s, with the initial approach targeting testosterone levels. However, this method was not fully protective and had side effects such as weight gain and depression in 80-90% of trial participants.

As a result, research has turned away from a hormonal option to focus on the genes and proteins required to fertilize the egg. Two major breakthroughs were published in 2015 that could lead to the development of a way to target sperm function using an oral medication.

Earlier in 2015, researchers found that sperm form spiky filaments from proteins in their acrosome that act to stabilize fusion to a female egg. They hope to target this process to prevent fertilization. In October, another group in Japan identified a version of the calcineurin protein that is unique to sperm. This protein is essential for fertilization because it allows the flexibility of motion necessary for the sperm to push through the zona pellucida of the egg. Two immunosuppressant drugs, cyclosporine A and tacrolimus, target the sperm calcineurin and resulted in infertile mice after 5 days, with fertility returning within one week after dosing was stopped. The group hopes to create a reversible and rapidly-acting human male contraceptive.



In spite of these discoveries, a male pill still seems to be at least 10 years away if development goes well. However, there may be another option on the horizon for those seeking reversible infertility. Vasalgel is a synthetic polymer that is injected into the vas deferens, where it acts by preventing sperm to move through but allowing other fluids. The effects are reported to last around 10 years, and the process is reversible by a sodium bicarbonate injection, which dissolves the polymer. Human trials for this process are set to begin in 2016, and market projections range from 3 to 5 years. However, some are skeptical that men will want to undergo the procedure in order to implement the gel.

Even with the approval of Vasalgel in the near future, a less invasive option is still ideal in terms of making male birth control viable on a large scale. Ilpo Huhtaniemi, a professor of reproductive endocrinology at Imperial College in London, echoes this sentiment: “we need a pill, that’s the easiest to administer. It is feasible, we just need to find the right target.” More birth control options available for more people is a goal that will soon be achieved, and the only question remaining is whether men are also willing to take a “Pill”.

References:

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Metformin: Anti-Ageing Pill?

By Lauren Ferruccio, Staff Writer (1T6)

A couple of months ago, I came across the headline: “World’s first anti-ageing drug could see humans live to 120”. Of course, this caught my interest – I wondered what new compound this is, how it works, what testing has been done, and where the estimate of 120 years came from (the current life expectancy in Canada is ~82 years). I was quite surprised when I clicked on the link and saw that the “anti-ageing drug” that the headline referenced was none other than metformin.

Metformin has been in use as an oral antihyperglycemic agent for nearly 60 years around the world, and twenty years after be-

ing approved in Canada, it is one of the most commonly prescribed medications. So, how could this 60-year-old medication somehow slow ageing, and increase our life expectancy by roughly forty years?

These claims mostly come from animal studies that show a 40-60% increase in lifespan when subjects are exposed to metformin for nearly their entire lives. 120 years is also thought to be the upper limit of the human lifespan, which may further explain where this estimate came from. There is some evidence that people taking metformin have a lower rate of cancer and



have reduced cognitive decline as they age, but this data comes from epidemiological studies with many confounders. The claim that metformin can allow people to live to 120 years old is extremely premature, and it is unlikely that any clinical trials will show such a significant increase in life expectancy.

I also wondered about the plausibility of metformin being able to slow ageing, even if the effect is not as dramatic as the news headline suggests. Genetic studies in *C. elegans* suggest that metformin may mimic a dietary-restricted state, which has been shown to reduce ageing in many model organisms, as well as some primates. The mechanism of this pathway is thought to involve both a reduction in free-radical generation, and a reduction in glycation of proteins in the bloodstream.

The FDA recently approved a clinical trial, "Targeting Aging with Metformin" (TAME). This study will enrol ~3000 people between 70-80 years old with one or two of ischemic heart disease, stroke, cancer and cognitive impairment, or who are at risk of these conditions. Diabetic patients are excluded. The primary outcome will be the time it takes to develop additional age-related conditions that they did not have upon enrolment ("healthspan", rather than lifespan). Currently, this trial does not have funding or a publicly available protocol, and has not been listed on ClinicalTrials.gov, though the investigators hope to start enrolling subjects this year.

Another ongoing study, "Metformin in Longevity Study" (MILES), is looking at changes in expression of genes related to ageing in patients with impaired glucose tolerance, after one year of taking metformin. This study is scheduled to be complete this month, and if the results are positive, this may promote interest in funding the TAME study.

Unfortunately, based on the currently available evidence, the use of metformin as an "anti-ageing" pill to extend the human lifespan is hypothetically interesting but practically unlikely. However, if metformin does improve "healthspan" in the TAME study, this may not only change the way we use metformin, but may also initiate a shift in the way we think about and "treat" the normal ageing process.

New Drug on the Block – Entresto for Heart Failure

By Anja Kovacevic, Monograph Representative (1T6)

What is it?

Entresto is a fixed-dose combination of a neprilysin inhibitor (sacubitril) and an ARB (valsartan). This is the first in a new class of medications called ARNIs (angiotensin receptor – neprilysin inhibitors).

Entresto tablets are available in the following strengths:

- 24.3 mg sacubitril/25.7 mg valsartan sodium hydrate complex
- 48.6 mg sacubitril/51.4 mg valsartan sodium hydrate complex
- 97.2 mg sacubitril/102.8 mg valsartan sodium hydrate complex

What is a neprilysin inhibitor?

You probably don't remember hearing about neprilysin inhibitors in cardiology, and that's because sacubitril is the first neprilysin inhibitor to receive market approval. Sacubitril works by inhibiting the neprilysin enzyme. The neprilysin enzyme degrades endogenous vasoactive peptides such as bradykinin and natriuretic peptides. By blocking the activity of this enzyme, sacubitril indirectly increases the levels of these vasoactive compounds, and that results in increased vasodilation, and water and sodium excretion.

Why has sacubitril been combined with valsartan?

Neprilysin inhibition leads to increased RAAS activity, which is

undesirable because RAAS activation leads to water and sodium retention and thus increased congestive symptoms (dyspnea, peripheral edema) in patients with congestive heart failure. Valsartan reduces the activity of the renin-angiotensin-aldosterone system by blocking the angiotensin II receptor and preventing the release of aldosterone, thus working synergistically with sacubitril.



What is the indication?

Entresto has been approved for the treatment of heart failure with reduced ejection fraction. Patients with congestive heart failure with reduced left ventricular function and NYHA Functional Class II or III may be started on Entresto instead of an ACEi or an ARB, and in combination with other heart failure medications.

What are the possible side effects? Drug interactions to look out for?

Possible side effects include hypotension, hyperkalemia, cough, dizziness, renal impairment, and angioedema.

Entresto should not be combined with any ACE inhibitors, ARBs, or the direct renin inhibitor aliskiren. This drug should also be used in caution with any other medications that may increase serum potassium levels (e.g. potassium-sparing diuretics, potassium supplements). Finally, caution when combining this drug with other medications that may increase the risk of renal impairment (e.g. NSAIDs).

Which patients with CHF should NOT be taking Entresto?

Entresto is contraindicated for use in combination with any ACE inhibitor or ARB. Other contraindications include:

- a history of idiopathic, hereditary or ACEi/ARB-induced angioedema
- pregnancy
- combination with aliskiren in patients with diabetes
- combination with aliskiren in patients with CrCl < 60 mL/min
- not recommended in patients with severe hepatic impairment

Why was this drug approved? Are we going to see a lot of CHF patients being started on this new medication?

As with any new medication, the efficacy, safety, and role in therapy of Entresto will become clearer in the years to come. Entresto was approved based on the results of the PARADIGM-HF trial which compared Entresto with enalapril for the treatment of heart failure with reduced ejection fraction. The results of this trial showed that patients treated with Entresto had significantly reduced cardiovascular mortality, significantly reduced all-cause mortality, and a significant reduction in heart failure-related hospitalizations compared to patients treated with enalapril. PARADIGM-HF was the largest heart failure-specific clinical trial ever conducted, and the positive results from this study have generated buzz around this new drug. It is likely that we will start seeing patients who are symptomatic and having CHF exacerbations on an ACEi or ARB be switched to Entresto, and only time will tell whether the new drug on the block becomes a standard part of CHF treatment.

In the News: Pharmacy Perspectives

The State of Pharmacy in Quebec: Professional Attrition Amid Expanded Scope

By Stefan Saragosa , Staff Writer (1T8)



Initially sponsored by Health & Social Services Minister Yves Bolduc in 2011, Bill n°41 : An Act to amend the Pharmacy Act, was set to reduce some of the burden

on the healthcare system by allowing pharmacists to have additional responsibilities. Bill 41 then remained in an unproductive negotiation limbo through two provincial governments. The promised expanded scope for pharmacists was to include seven additional acts. As Bill 41 was finalized this past 2015, Quebec's Couillard government showed contempt towards the service provider: only four of these acts will be remunerated when completed by pharmacists. Pharmacists will only be remunerated for the new acts of prolonging prescriptions, adjusting doses, prescribing when no diagnosis is required and prescribing when the condition and treatment modality are already defined. The remaining acts are unremunerated, time-consuming and, when executed, still transfer responsibility to the pharmacist. The association of Quebec pharmacy owners (AQPP) has decried these honorary acts, projecting revenue losses of 100,00\$ per community pharmacy and 177 million dollars across the network.

Bill 28 outlines the framework through which pharmacists

will be paid for expanded scope acts. These same acts, when completed by other health care professionals, are reimbursed through the Régie d'Assurance Maladie. When completed by pharmacists, however, the acts are reimbursed through the Régie d'Assurance Médicaments. To this end, the Couillard government has arbitrarily allocated a 17 million dollar coffer for these additional acts. When the coffer runs dry, most certainly before the year end, pharmacists *will no longer be remunerated at all* for these acts.

Consider the example of a pharmacy client seeking prophylactic antibiotics for traveler's diarrhea. If the coffer hasn't run dry, the pharmacist will write the prescription, bill the Régie d'Assurance Médicaments and be remunerated for the act. The pharmacy client will be glad they didn't have to wait hours at a clinic for a routine prescription requiring no diagnosis. But if this same patient comes back in December, for prophylactic antibiotics, the pharmacist will certainly have their claim denied. How could a pharmacist explain to this same patient that they won't write the prescription and accept the responsibility? How could a pharmacist explain that they wish to be anything other than obsequiously servile?

Productivity Dilution and Failed Role Dissemination

The role of pharmacists in Quebec and across the country appears nebulous enough to patients. With the addition of these new medical acts, pharmacists are increasing their responsibility in a manner that is not only disproportionate to their remuneration, but more importantly disproportionate to their ability to guarantee high-quality services are rendered.

In the News: Pharmacy Perspectives

The only time patients truly acknowledge a pharmacist's drug therapy expertise is to quip that he or she is powerless, such as when a pharmacist cannot, for example, make therapeutic substitutions without the accord of the unreachable MD on vacation. Though our performance or sense of self-worth should never be contingent on such recognition, a patient's likeliness to seek out our services is seriously hampered by the nebulous identification of our role. If doctors and pharmacists were to be equally accessible, the vast majority of patients would still go to doctors for a consultation regarding medication therapy management, our supposed bread-and-butter. We are rapidly becoming practitioners of convenience, of a convenience store. The only justification for why pharmacists should accept more unpaid responsibilities is to attract clients to the pharmacy to buy other storefront goods (shampoo, chips, batteries), which pharmacy has no professional claim over.

Bill 81 is a Direct Threat to Patient Care

Bill 81 allows tendering for drug supply through the form of year-end rebates or discounted formulations. While the goal of Bill 81 is to reduce the price of generic drugs, patient advocacy groups such as *Conseil pour la protection des maladies* say that the dangerous consequence of this bidding system would be the reduced number of players in the generic market. Whichever pharmaceutical supplier succeeds in offering the least expensive generic formulation is likely to become the only provider of that generic drug. Less than a handful of generic companies are likely to survive, each offering distinct generic product skews. This will almost inevitably lead to greater drug shortages, a growing problem in recent years, and compromise patient care.

Providing Advice: Drugs Taken During Pregnancy

By Sara Temkit, Staff Writer (1T7)

As pharmacy students, we spend most of our time memorizing drug names and dosages for our PCT (pharmacotherapy) courses. But, how many of us truly feel confident to provide medication advice when interacting face-to-face with patients? What about providing medication advice to pregnant patients?

To my horror, a family friend of mine informed me that a pharmacist advised her to take Ibuprofen for headaches, despite the fact that she was *highly* and visibly pregnant. NSAIDs can increase the risk of miscarriage and heart malformations, and that is basic pharmacist knowledge.

Though we do have resources, such as **Brigg's Drugs in Pregnancy and Lactation** and **Motherisk**, we struggle in providing basic OTC pregnancy advice. And, it does not help that the FDA risk categories (A, B, C, D, and X), which is the most dominant source of pregnancy information, have little clinical utility.

I mean, how many of us know what these FDA pregnancy categories truly mean?

Certainly, this topic is rarely addressed in detail in our pharmacy school curriculum. For a brief overview, refer to the table 1:

Class A	Class B	Class C	Class D	Class X
No Risk in Controlled Human Studies	No Risk in Controlled Animal Studies	Small Risk in Controlled Animal Studies	Strong Evidence of Risk to the Human Fetus	Very High Risk to the Human Fetus

Table 1 : FDA Pregnancy Risk Categories

It is clear that drugs in Class A are likely safe, whereas those classified under category X (such as warfarin, methotrexate, and isotretinoin) are highly teratogenic and are completely contraindicated in pregnancy. However, given that most drugs fall into Class C, there is little human evidence to guide clinical decision-making for the majority of drugs.

In the interim, most information about drug safety during pregnancy is derived from animal studies or post-marketing reports. For those of us who have taken Dr. Well's 3rd year Toxicology course, we know that the risk of drug-induced teratogenesis is gravely under-estimated. Most phase I-IV clinical trials do not include pregnant women, and post-marketing reports have limited utility.

In order to be detected in post-marketing studies, the chemically-induced toxicity must be produced with a very high incidence or be a highly uncommon birth defect. Both requirements were met in the case of Thalidomide, a drug that was marketed for the treatment of morning sickness in the 1960's.

It was clear that thalidomide was a teratogen, as the incidence of phocomelia (shortened limbs) greatly increased after the introduction of thalidomide to the Canadian market, and the birth defect was so characteristic that it was almost impossible to miss.

For the majority of drugs, teratogenic effects remain widely under-estimated. This is due to the failure of post-marketing epidemiological studies to capture the predisposing factors that determine toxicity. These predisposing factors include individual differences in drug metabolism and detoxification.

To date, only 6% of reported drug defects have been attributed to drugs and chemicals, 20-30% have been attributed to genetics, and 70% are attributable to an unknown cause. These so-called unknown causes maybe the culmination of the synergistic effect of normally non-toxic chemicals in biochemically predisposed children. Subtle functional defects, such as cognitive deficits, are next to impossible to detect with currently used methods of assessing drug teratogenicity.

For these reasons and more, it is important for us to be vigilant as pharmacists. Below is a common guide used to assess teratogenic risks at different stages of fetal development.

	1 st Trimester		Mostly 2 nd and 3 rd Trimesters
Duration	1-2 weeks	3-7 weeks	8-38 weeks
Developmental Process	Cell division	Cellular differentiation & organogenesis	Histological differentiation & functional development
Teratogenic Consequence	Prenatal death	Major morphological abnormalities	Functional defects & minor morphological malformations

Table 2: Critical Periods of Drug Exposure

Though the first trimester is a crucial period for miscarriages and major organ malformations, the second and third trimesters are equally important with regards to the functional development of the body organs, especially the brain. Given the developmental risks, it is our duty to report suspected teratogens.

The reporting of adverse drug reactions, including teratogens, amplifies the risk detection signal.

All suspected ADRs, including teratogenic effects, can be reported on the "Canada Vigilance Adverse Reaction Reporting Form" that is found in the CPS in Appendix 4 OR online on the Health Canada website. The completed form can be faxed to the Canada Vigilance Program at 1-866-678-6789.

We are pharmacists. We are drug experts. It is our duty, nay our ethical obligation, to report suspected teratogens. It is also our duty to use our knowledge and the resources available to us to make clinical decisions. As pharmacists, we are constantly weighing the risk of teratogenicity with the benefit the mother can obtain from indicated treatments.

You may be asking yourself, when a patient or health care pro-

fessionals walks up to you and asks for advice regarding the use of a particular drug during pregnancy, what can you do? The new FDA-approved classification system will not be available till 2020, so how can we make clinical decisions in the meantime?

Firstly, consider the stage of pregnancy, and review the information available regarding fetal drug exposure during that particular stage of fetal development. Do NOT rely on the pregnancy risk category to make a decision. Instead, read the narratives that are available in the drug information resources.

It is best to read several references in order to get the "big picture" regarding the safety of the drug. In the CPS, refer to the CPhA monographs, which are more comprehensive in comparison to the manufacturer-authored monographs. The manufacturer monographs often contain less-than-helpful generic statements such as "more information is needed before this drug can be recommended for use in pregnancy".

In your decision-making process, consider the risk to the mother, if she is left untreated. If needed, consult the patient's prescribing or obstetric physician to obtain more background information regarding the patient before making a final recommendation. It also helps to understand the pregnancy risks associated with commonly-used medications, such as statins. You can also refer to the Clinical-Info section of the CPS (authored by the physicians of the Motherisk program) to review the basic principles regarding prescribing in pregnancy and drugs of choice in pregnancy. Good Luck!

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In the News: Current Events

Our Dwindling Loonie

By Yannan Liu, Staff Writer (1T9)



If you follow the stock markets, read economy news, or even just shop at all, you will have certainly felt a profound feeling of things becoming more and more expensive lately. And I'm not talking about just groceries: beer, games and anything from the states will feel like it costs sometimes twice what you used to pay for them. Not to mention oil, despite being at the lowest price it has been in years, still costs a hefty sum for Canadians.

But why is that? For starters, our dollar is at one of the lowest points it has been in recent memory. It has dropped steadily since 2012 and at the time of writing has dropped to a low of \$0.70 USD. And the reason for most of this lies in our investments and revenue producers. Considering that Canada has been largely invested in natural resources for a greater part of the last decade, the sudden decline in demand of said resources has weakened our economy somewhat. Concurrently, because

of our heavy investments in natural resources, we have since neglected other more innovative forms of generating (such as tech) wealth and have therefore put ourselves in a slump that seems to have no end. That, coupled with the fear of competition with our Chinese neighbours of the east, has driven the country to quite a distressing situation.

Despite all of this, bright days lie ahead. Our Federal Finance Minister Bill Morneau has since said that he has plans to get us back on track. In preparing his budget, Morneau has said that "long-term growth" will be the key focus of the government, and an improved labour workforce by employing more aborigines, immigrants and those with disabilities might help with our economy. But regardless of what our economic plans are in the near future, it will probably take a bit of time before we really get back on our feet.

New Year Who Dis?

By Shireen Cotton, Staff Writer (1T8)

If you're like me, then your New Years Resolutions usually involve something along the lines of getting fit, being super hot and also getting straight A's while maintaining an enviable social life. January 1st always seems like a new chance to be the best and change a lot or whatever DJ Khaled says you should do. This year, instead of trying to change my entire way of life and fizzling out by February, I'm focusing on small health changes that are actually feasible. For example goal number one involves moving off my couch (start low go slow). We all seem to have this idea of how this is the year we're going to change all of the terrible eating and exercise habits we've developed over the last 20+ years. I'm now taking a different view with a different goal. I'm not planning to become this whole new person (guys I didn't even get a haircut), I'm just going to work on easy to implement health strategies that will make big changes over the long run.

Tim Horton's constituted my entire diet during finals last semester. I still can't look a bagel in the hole. So this year I'm going to try and focus on cooking more at home and packing lunches. I'll be honest, my primary motivation for this is to save money, but doing things like planning meals and using my slow cooker more helps to simply be more conscious about what I'm eating. The best way to tackle this is to plan ahead and freeze foods in preparation for midterms and finals. May the Pinterest Gods be with you.

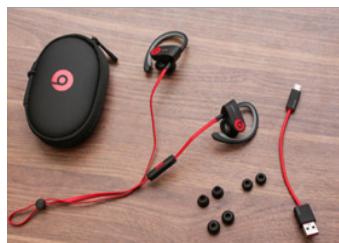
Fitness and Exercise Gadgets

By Donna Yang, Staff Writer (1T9)

Over the years, fitness goals often appear as part of the New Year's resolutions for many individuals. Before you get too excited and head out to the gym, consider investing in some accessories that can be helpful in your routines.

1. Earbuds

Without a doubt, most of us like to listen to music during workouts to stay motivated. A good pair of earbuds is a must as nothing is more frustrating than earbuds that keep falling out of your ears.



There are many earbuds on the market designed for workouts with the possibility of being water resistant at a fair price. Additionally, there are higher end wireless earbuds such as Beats PowerBeats 2 with a range of colours to choose from if you don't like the cord hanging.

In an effort to get back into exercising, I am looking for gym alternatives. I'm still going to try and continue with regular(ish) work outs, but I also want something new, fresh and exciting (2016!). U of T offers so many different activities like intramurals and Hart House classes you can get into. Another option is doing intro classes at different exercise studios around the city.



We are students and we definitely do not have money to shell out for monthly passes to spin/barre/yoga etc. but a lot of these places usually offer introductory memberships that are pretty reasonable. A few options are: Moksha Yoga and YYoga both offer 1 month intro passes for around \$40 and Moksha offers \$5 Karma classes on certain nights, Barreworks has 2 week intro classes for \$40, even Goodlife offers a 14-day intro membership for \$14. The options are endless whether you want to do yoga, dance, spin, kickboxing or any other specialized class, and it doesn't have to cost as much as tuition.

These are just a couple things I'm trying to do with my new year. Whatever you decide to do, just remember you don't have to change every one of your less than perfect eating and exercising habits. It never works that way. Remember, you're already really really really good looking, and killing it in an amazing professional faculty, and those are already 2 major keys to success.



2. Armband

Keeping your phone safely in your pocket during your workout is a difficult task. Thus, an armband is another piece of accessory

that is worth investing. Personally, for the iPhone, I like the armband by Belkin as it has a simple design that includes extra slots for holding cards.

3. Water bottle

While working out, remember to stay hydrated and replenish the water you lose! So a water bottle is a must-have in your gym bag. Fiddling with the water bottle as you are trying to exercise can be annoying. Therefore, I tend to buy water bottles



that are easy to carry around with a comfortable grip.

4. Yoga-kit

Are you considering to start doing yoga? If your answer is "yes", then Nike Essential Yoga Kit is perfect for starters. The kit includes a mat, yoga block and a strap, allowing you to easily carry your kit when travelling.



5. Fitness tracker

This is an awesome little device to put around your wrist that can measure your heart rate and keeping track of the calories burned. The stats can easily sync wirelessly and automatically to your phone and computer. Furthermore, it may also function as a watch.



Lifestyle: Out and About!

New Year, New Me, New Outings!

By Josephine Vu, Staff Writer (1T9)

With a new year comes the optimistic, "new year, new me!" attitude that is often accompanied by a chorus of resolutions. With 2016 in full swing, it's never too early (or too late) to start committing to the resolutions you declared with conviction on December 31st, 2015. Here are a few ways to jumpstart those resolutions by incorporating a local fieldtrip:

"This year, I'm going to get fit"

The Evergreen Brick Works, 550 Bayview Avenue, Toronto, ON



We all know the gyms are going to be packed until mid-February so why not find a different way to get in shape and explore the city. Skating is a fun way to burn some holiday calories and hang out with friends and there are a number of public rinks throughout the GTA to choose from. However, Evergreen Brick Works is the place to go if you're looking to avoid the downtown crowds. Transformed from old heritage buildings, Evergreen Brick Works is not only a scenic place to skate, it's also sustainable and was named one of the top 10 geo-tourism destinations by National Geographic in 2010.

Things to know:

- Open December-March 11:00am-4:00pm o

weekends and holidays and some week days 12:00pm-6:00pm

- Try skating on the Ice Trail or ask about hiking the uphill trails
- \$5 skate rentals and \$5 skate sharpenings available
- Explore the Evergreen Winter Village that offering special activities every weekend like farmer markets and live music
- TTC accessible with free shuttle buses running from Broadview Station
- Check www.everygreen.ca for more info

"This year, I'm going to try new and different foods"

St. Lawrence Market, 92-95 Front Street East, Toronto, ON

The historic St. Lawrence Market is a bustling collection of shops and eateries located in downtown Toronto. With 120 independently owned market vendors serving



up some of the finest food in this multi-cultural city, there's sure to be something for everyone. Check out Buster's Sea Cove for fish and chips served fresh daily, various bakeries for sweet treats, or St. Urbain Bagel to satisfy that craving for a Montreal-style bagel. Happy exploring and bon appétit!

Lifestyle: Out and About!

Things to know:

- Open 8am-6pm Tuesday to Thursdays (until 7pm on Fridays) and 5am to 5pm on Saturdays
- Closed Sundays & Mondays
- St. Lawrence Market complex is made of 3 main buildings:
 - o *South Market*: where you'll find the 120 food vendors
 - o *North Market*: location for the weekly Farmers' Market on Saturdays and antique dealers on Sundays
 - o *St. Lawrence Hall*: retail businesses and City of Toronto offices
- After sampling some of delicious food, take a stroll along Front Street and check out the shops
- Hands-on cooking classes are available in the Market Kitchen with classes including Pie Making, Knife Skills, and Homemade Pasta. Notes: spots sell out quickly so look online for availability
- Check www.stlawrencemarket.com for more info

"This year, I'm going to try new things"

Tarragon Theatre 30 Bridgman Ave, Toronto, ON

The next time you're in the mood for sit-down entertainment, opt for a more alternative venue and check out a play at the Tarragon Theatre. As one of Toronto's lesser-known theatre spaces, the Tarragon is a hidden gem worth check-

ing out in 2016. Since 1970, the Tarragon has been dedicated to the development, creation and encouragement of new playwrights and their work. Over 180 contemporary and classical works have premiered at Tarragon from playwrights all around Canada and the theatre also produces international works.

Things to know:

- The Tarragon has two performance spaces: the Mainspace (205 seats) and the Extraspace (100 seats)
- Tickets range from \$22-\$65 depending on specific show and performance time
- Rush Tickets are available starting 2 hours before every show time (except on opening night) and cost \$15 each (cash only; limit 2 per person)
- TTC accessible (walking distance from Dupont Station) and parking is available for a flat rate of \$5
- 4 shows will be available in the winter season: Within the Glass, Mustard, You Will Remember Me, The Summoned
- Check out www.tarragontheatre.com for show descriptions and more info



Lifestyle: Fashion

Outfit Ideas for Upcoming APPEs and EPEs

By Jennifer Wang, Staff Writer (1T7)

Welcome back everyone! Now that we're in second semester, it's time to ditch the sweats for trousers as EPE and APPE are fast approaching! Dressing to impress can be quite the feat, but have no fear, outfit ideas are here!



and loafers from J.Crew, blazer from H&M and pants from Laura Petites.

1. The classic ensemble: a button down paired with slim fitting pants, a blazer and loafers are a go to look! Mix it up with different prints and textures so your preceptor can't tell you're basically wearing the same thing everyday. ;)
Button down
and loafers from J.Crew, blazer from H&M and pants from Laura Petites.



2. Some EPE/APPE sites get so many students it's hard to remember them all! Make a statement with bright colours paired with neutral accessories! Skirt from Laura Petites, top from Express, blazer from Ann Klein and heels from Rockport.



3. Another classic: a well fitting button down and pencil skirt can go a long way! Can't stand the thought of wearing heels all day? Switch them out for cute flats and you're good to go! Button down and skirt from J.Crew, heels from Rockport and clutch from Forever 21.

Hope these ideas help you get through EPE/APPE fashionably!

Aka Teppan Restaurant Review

By Luo Fei Liu, Staff Writer (1T9)

While we were lucky to have a mild winter so far, forecasts show that we may have to prepare for colder temperatures soon. Thankfully, there are many ways to stay warm which includes a nice, hot meal. If you are craving something that makes you feel warm inside just by gazing at it, I recommend Aka Teppan.

Situated in the Annex, this restaurant offers a variety of dishes that cook before your eyes. The most popular dish would have to be the Supreme Beef Teppanyaki Rice. It arrives in a tabletop hot plate



and you get to see the color of the beef change from red to brown in front of you. Popular add-ons include a raw egg, green onions, and corn. I also highly recommend the Tomato Nabe dish. Think of it as a hotpot setup for one where you get to cook your own meal once choosing a soup base to start.

The service can be a bit slow due to the busy setting but this restaurant definitely offers a more unique experience if you are looking for something different this winter.

Not Just Another Jerk!

By Shakira Hakimdazah, Staff Writer (1T8)

If you're like me and the site of a man chopping up a cooked chicken sets your heart aflutter, then we have a lot in common. These spots in Toronto are guaranteed to provide you with that visual and set you up for some amazing Jamaican food. Brush up on your Patois and let them know, "Mi soon come nyam (I'll be right over for lunch)."



Kensington Market is a personal favorite because it's close to PB and offers a lot of delicious grub. **Rasta Pasta** is notorious for their combination of Jamaican and Italian flavors. They offer up a saucy jerk chicken lunch special for only \$5. You get a cut of Jerk chicken, cole-slaw/veggies, and a side of rice and beans.

Still not convinced? The jerk chicken practically falls off the bone – it's so juicy. Be aware that they're closed on Mondays and there's practically no seating so be sure to get take-out.

Also located in downtown Toronto is the restaurant, **Patois**. This is another fusion of Jamaican and Asian cuisine. The price tag matches the hip and happening front they have on display. Be sure to arrive a bit earlier for dinner before the crowd hits because it can get packed. Their menu is tapas so you won't find many entrées, but small portions that are just enough to share among a group. The dishes are very different from one another, such that there's something that may appeal to everyone. Their juicy jerk chicken was nice and tender. There were mixed opinions on the Jerk chicken chow mein but I loved the sauciness and added element of jerk chicken.

These other two restaurants are more conventional and may be inconvenient for anyone who isn't a "Scarbarian" (a Scarbor-

ough native). Even so, these are some of the best places I've been to that produce a nice authentic dish.

Chris Jerk is the bossman of restaurants in this review. I love their jerk chicken, which is spicier than the rest and has me flushed and bothered in a good way. Ask them to put ox-tail gravy on your jerk if you want a sweet flavor to complement the spicy. However, the real winner is their Jerk Shawarma poutine. This hot commodity usually sells out by evening, so go early. The poutine consists of fries smothered in gravy, covered in melted cheese and a smattering of the best jerk chicken you can get. It's truly unbelievable! The value is great for the amount of food you get.



Of them all, I think **Island Spice** offers the most genuine taste in terms of jerk chicken. They appear slightly run-down, but their extensive menu is very pleasing. All the options might not be available that day so be sure to check with the ladies behind the counter. They also get bonus points for having halal meat! Check out the \$6 specials, which contain your choice of meat or fish served with a rice or dumpling (basically a bun). The Jerk Chicken has a kick to it and is deliciously smoky. If you're someone who can't tolerate spicy food then you can try the orange chicken stew, which tastes sweet (the black one is spicy). Pro-tip: Opt for the dumpling to dip in to soak up the remnants of sauce – it's divine!

Each of these places offers a certain flair for jerk that the other can't replicate. For that reason, I suggest you hit up all of these places and see what you like best. I'm going to conclude this with a 'Tun up!'

Yo' Momma's Kitchen!

By Kyle Acton (1T7) in association with Culinary Awareness in Pharmacy

In this issue, we explore the festive cuisine of Spain! Due to regional variability and a colourful culture history, Spanish dishes focus on fresh and local ingredients. We will be preparing a delicious hake.

The Ingredients

100g pack raw cooking chorizo (A Spanish Sausage meat)
1 onion, finely chopped
260g bag of spinach
2 x 140g skinless hake fillets
1/2 tsp sweet smoked paprika

1 red chili, deseeded and shredded
400g can of cannellini beans, drained
1/2 tbsp lemon juice
1 tbsp extra virgin olive oil

How to:

Step 1: Cook your base

Start by popping the kettle on (you'll need this in a few minutes). Turn on your frying pan to high heat; spread olive oil over the pan. Remove the casing of the chorizo and throw the meat into the pan. Add the onions and cook for about 5 minutes, breaking the meat down. The meat and onions should be nice and golden.

Step 2: The fish and greens

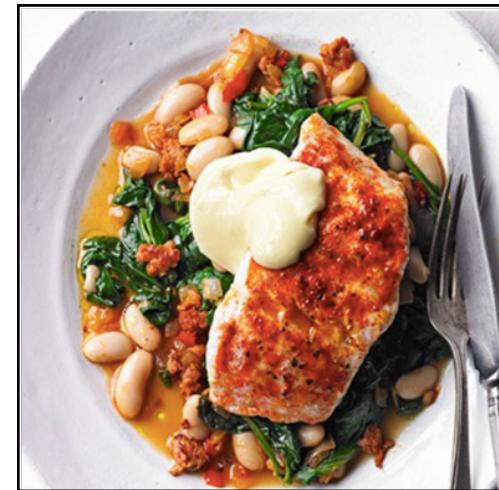
Put the spinach in a colander and pour that boiling water over nice and slowly. Quickly rinse with cold water and squeeze out any access water. Next, line a baking tray with foil and glaze with oil. Place those beautiful cuts of fish onto the tray and season with paprika and a touch more olive oil.

Step 3: Back to the base(ics)

Throw the chili pepper, beans, spinach, lemon juice, and a light dash of olive oil into the mix. Fry for about a minute, or until the mixture is well warmed.

Step 4: Final touches

Put the fish in the oven at 375°F and grill for about 5 minutes, until flaky. There is no need to flip it. Spoon a helping of your base and top with the fish and juices from the pan. Et voilà!



Bon Appétit

Mango Kale Salad!

By Xuan Yao, Staff Writer (1T9)

Ingredients:

- 1 large mango
- 1 bundle of kale
- 1 teaspoon of salt
- 1 tablespoon Olive oil
- lemon (optional)



Instructions:

1. Rinse the kale and separate the leaves from the stem
2. Throw the stem out and keep the leaves in the salad bowl
3. Chop the kale leaves into bite-size pieces
4. Add olive oil and salt and massage the kale leaves for 3-5 minutes
5. Cut the mango into small cubes and add on top of the kale
6. Sprinkle lemon or more salt according to your taste

Warning: Ensure the mango is ripe before use with kale, or else you will have a sour and bitter combination.

Campus Drama**Hamlet: The Modern Dane**

By Lyudmyla Pashkivska, Staff Writer (1T9)



Hamlet and courtiers in modern clothing.

On November 6th 2015, I attended a Hart House Theatre production of *Hamlet*, a tragedy written by William Shakespeare. I thoroughly enjoyed the performance for numerous reasons: the set design was versatile, bright red colour was cleverly used in clothing and curtains to point towards guilty characters and the actors brought the story to life.

Before I delve deeper into the production, here is a short summary of this masterpiece. The hostility between a Danish Prince named Hamlet and his new step father Claudius leads to multiple murders. The bad blood results from Hamlet's suspicions that his father's death was caused by Claudius. The accidental victims of this antagonism include Polonius and Hamlet's mother, Gertrude. Polonius' son is slain in a duel with Hamlet, who dies as well, after he kills Claudius.

My expectations of this play included iambic pentameter, his-

torical costumes, and candlelight. Surprisingly, none of them appeared because the production was modernized. The use of present-day language, costumes and props allowed the viewers to see beyond the historical divides and to relate more deeply to the play. The actors spoke in a manner that we commonly do, without British accents and stressing the syllables. By communicating in a modern way, the characters appeared more relatable, rather than alien or imaginary. The outfits looked like they came from Eaton Centre and did not contain frilly collars. Resultantly, as the viewers saw Hamlet in this season's popular menswear, they looked beyond his existence as a prince during Renaissance time period and saw a university student, whose parents were meddling in his life. Finally, contemporary items of technology such as headphones, tablets and digital cameras were seamlessly integrated into the production. As Hamlet contemplated while listening to his MP3 player and used a projector to show a movie he filmed, I connected to him as a peer. Therefore the production allowed the audience to see the timeless themes of Hamlet through the exclusion of the antique details.

Since the creation of this play over 400 years ago, the fashion and technology have evolved, while the human nature has stayed relatively constant. Therefore, this production was able to preserve the ideas captured by the Bard while keeping up with modern trends, creating a synergy of old and new.

The next production I will be attending is the award winning musical, *Into the Woods*. It will be running from January 15th to January 30th. I have seen other musicals on the Hart House Stage, *The Wedding Singer* and *Jesus Christ Superstar*, and I have enjoyed the live music and the choreography immensely. I'll tell you all about this new production in the next issue of the Monograph.

Entertainment: The Music Scene**Christmas and Chill with Ariana Grande**

By Faizan Baig, Monograph Representative (1T9)

You wish. But actually that's the name of the album, and it definitely holds up to the name. In case you have no idea who Ariana Grande is, she's basically a 22 year old girl that used to play Cat Valentine on the show *Victorious* before making a deal with the devil, exchanging who knows what for Mariah Carey's voice. Instead of covering already existing Christmas songs like most artists do for holiday albums, *Christmas and Chill* consists of 6 original songs surrounding a very R&B style feeling. Surprisingly, I was really excited to review this album, because my other choices mainly consisted of Justin Bieber (lol) and going really left-field with more obscure artists. For some reason, there are barely any albums released during this time of the year.

Let's head right into the review!

Grande begins the album with a small 1-minute intro piece, singing "Welcome to this Christmas", which I happily accept as she moves onto her first song, "Wit it This Christmas". I really don't like mainstream artists, maybe a few songs here and there that are actually catchy, and even then, I tend to hate the fact that it's so catchy. For some reason, I just can't hate Ariana Grande, especially when she's able to hit notes that only angels dream of. Her voice in this song can only be best described as the smoothness of washing down cookies with some warm milk. In case Miss Grande is listening, I'm totally "Wit it this Christmas". I know this issue comes out in January, but "December", the next song,

Entertainment: The Music Scene



ARIANA GRANDE CHRISTMAS & CHILL

leaves me in **fantasy of walking through the falling snow in search.** (not quite sure what he means) If you didn't think that this album was going to be the slightest seductive simply by reading the title, I don't know what to tell you. Seriously, "December" wishes I could put up a Christmas tree and stockings around the fireplace and hope

the tally up to 21, and these songs are probably very near the top. Even as I write this, the next song, "True Love", starts playing with a solid beat as Grande just drives right on through. These songs are just way too short, and I mean that as a compliment. Before this, I never knew that Ariana Grande had a Christmas EP, and now I regret not listening to it sooner. Finally, the album closes with an acoustic piece. At first, I didn't like the sudden move from trap beats to an acoustic guitar, but as I listened, it became more and more likeable. Before I embarrass myself any further, I'll give a brief conclusion of the album and end it here. Christmas and Chill is exactly what it sounds like; you're given an intimate look into the Christmas spirit and are left wishing that it lasted all year round. Ariana Grande's voice gives no break, even for a small EP, and has a more mature and soulful vibe to it. I give this album 5 candy canes out of 5. My favorite part of the album is Ariana Grande "Wit It This Christmas".

If you enjoyed this album, I suggest you check out these ones:

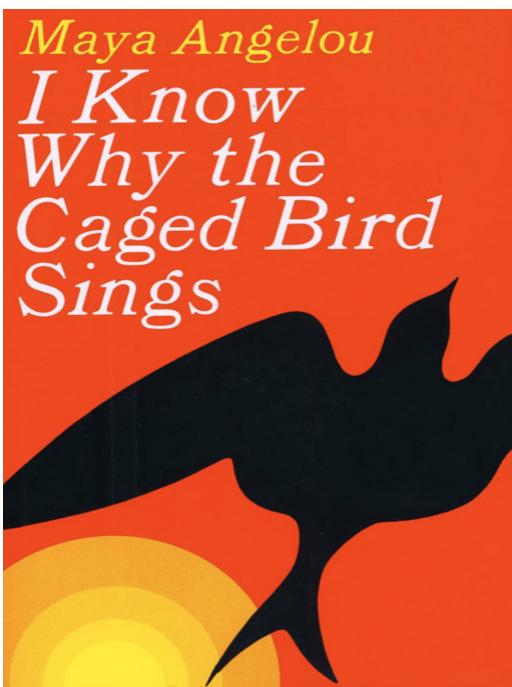
1. My Everything by Ariana Grande
2. Merry Christmas by Mariah Carey
3. Christmas by Michael Bublé

that Ariana Grande comes down the chimney. "Not Just On Christmas", the next track, has some of the nicest melodies I've heard in a Christmas song. That being said, I've probably only ever heard like 15 Christmas songs. Regardless, this album takes

Entertainment: Literature

Recommended Reads: *I Know Why the Caged Bird Sings* by Maya Angelou

By Naomi Lo, Staff Writer (1T8)



For the record, Maya Angelou is one of my favourite writers, and I know several of her quotes by heart. Thus, I may be slightly biased when reviewing any of her works, which include poetry and autobiographies. Nonetheless, I do believe that her very first book, *I Know Why the Caged Bird Sings*, is a bold and candid coming-of-age

feminism, as well as the most predominant themes of racial inequality and segregation. With an honest and matter-of-fact voice, Angelou describes her life's beginnings, which is so incredible that some may actually find hard to believe all of it. Angelou starts from the beginning of her life, when she is only a three-year old girl of colour living in the 1930s. Her childhood is not a happy one; she is the offspring of divorced absentee parents who literally ship Angelou and her brother off to pass the caregiving duties to her relatives. Although Angelou is properly fed, clothed, and receives an education, the relentless racism, prejudice, and one final act of trauma successfully shatters the last of her fragile sense of self-worth. Perhaps the only constant throughout all these trials and tribulations is her older brother Bailey, who she relies upon like a raft in turbulent waters. However, when she enters adolescence, she is able to rediscover herself through a series of events that seek to test her resilience, and she is able to overcome her insecurities to be a self-assured and confident young woman. She, like Rosa Parks, also creates a milestone in the history of African-American civil rights, and albeit not as famous as the Rosa Parks incident, is a turning point that reveals how much Angelou has changed for the better. As for the title, hopefully readers will also know why the caged bird sings by the end of Angelou's story.

autobiography that will stay with you long after reading it. In the vein of *To Kill A Mockingbird*, there are similar themes interwoven throughout the story, such as the loss of innocence,

Film Award Season 2016: The Essential List

By Alessia Forestieri, Staff Writer (1T7)

With the Oscars only a month away, some of you may be wondering which movies you should watch before the big awards night. If you're at all like me, you aim to watch all the nominated films before the winners are announced but, as busy pharmacy students, time is the limiting factor in accomplishing this ambitious goal. So here is my list of the four movies that should be at the very top of your list:



Room

This film has been reviewed in a previous issue of the monograph, so I'll keep it short. Brie Larson has already won a Golden Globe for her role in this moving film about a mother and son that es-

cape from their kidnapper and need to rediscover and adapt to the outside world. While the subject matter is certainly heavy, the story is told beautifully and Brie Larson deserves all the praise she is getting for her performance.

Spotlight

This is arguably the one film that has had the largest buzz since the pre-Oscar season began. Based on a true story, it follows the team of The Boston Globe investigative journalists that uncovered the sexual abuse scandal in the Catholic Church in 2002. Even though this happened in recent history, and has not been forgotten by the audience, the disbelief and horror expressed by the journalists as they unravel the truth is still very impactful and upsetting. But the film is not shocking just for the sake of being controversial and it is well balanced in its reveal of the extent of the issue. This is supported by the great performances by Mark Ruffalo, Michael Keaton, Rachel McAdams and Liev Schreiber who all play journalists and editors who doggedly pursue the truth and have to deal with the emotional consequences of what they discover.



The Big Short

Collateralized debt obligations? Mortgage-backed securities? These are not terms that excite audiences, and I certainly wasn't excited to watch a movie about the housing market. So it was a pleasant surprise to find that "The Big Short" is sometimes funny and light, and not at all boring. This is partially due to the unique, and hilariously brilliant, storytelling techniques that the film employs to explain complicated financial concepts to the average moviegoer audience. The film's success is also very much due to the interesting and quirky characters who are certain that the housing market will fail despite the general belief that this is impossible. The fact that these characters are played by the amazing ensemble cast of Steve Carell, Ryan Gosling, Christian Bale and Brad Pitt is just icing on the cake.

The Revenant

This movie was high on my list because of the claims from critics worldwide that this should be the role that finally gives Leonardo DiCaprio an Oscar for Best Actor. These claims are entirely justified, as DiCaprio gives a performance that is raw, powerful and brutal as a man who has to endure the stark winter wilderness after being left for dead, and plans to exact revenge. Adding to the rawness of the film is the cinematography that brilliantly captures the harshness and beauty of the North American wilderness. While this movie is over two and a half hours long, the scenes that will remain with you are the rare ones that are intense, violent, relentless and oftentimes difficult to watch.



Into the Badlands Season 1 Review

By Jessie Tong (1T9)

AMC's *Into the Badlands* presents a post-apocalyptic gun-free world, where feudal barons rule different areas of land with armies of highly skilled warriors or "clippers" in martial arts. These various territories make up the "Badlands" and what lies beyond these borders are unknown—most believe it's the bleak wastelands and a few searches for paradise. Our story takes place when baron Quinn's (Marton Csokas) head clipper Sunny (Daniel Wu) stumbles upon a teenage boy named M.K. (Aramis Knight). Conflict arises in the series when other barons seek to claim Quinn's empire for themselves; Sunny has reason to get out of the badlands as soon as possible and M.K. is on the run to escape from the grasp of our newest baroness: "The Widow" (Emily Beecham). Without giving away too much of the show, *Into the Badlands'* first (6 episodes) season revolves mainly around the above three plotlines.

Now I always prefer to leave on a positive note, so let's discuss the bad first and then the good. Viewers have two major criticisms of the series: the gun policy and the screenplay. In the premiere's opening monologue, the audience learns that, "they banished guns and trained armies of lethal fighters called clippers." This voiceover is, in essence, the only explanation we receive regarding the absence of guns on the show. It is played as our protagonist Sunny gloriously rides down a dirt road on a steampunk motorcycle with a sword strapped to his back. If they have technology like vehicles with motors, then why don't they have guns? Where are the guns? This series doesn't make any sense, etc., etc. This subset of viewers displays more self-righteous indignation than first year pharmacy students, if you told them that they were all going to become community pharmacists. Perhaps the folks who owned guns were swiftly killed by clippers or perhaps there are secretive underground societies like Leslie Dan's Pre-Med Student Association waiting to be revealed in a possible (*fingers crossed*) second season. Whatever

the reason, it is a premise of the *Badlands* universe, like any other fictional premise (ex. the possibility of reanimated corpses) that fans—for now—must simply accept in order to watch the series.

There is valid disappointment of the show's dialogue, which is largely as creative as the 1T9's first biochemistry assignments. This is further exacerbated by the sometimes stilted and cheesy conversations that are more awkward than sitting with your guy friends when professors say that you'll marry the classmate beside you. However, there are definitely moments of chemistry in the later episodes when actors have settled into their characters and the scenes felt more natural. Furthermore, Marton Csokas plays Quinn with such a purposeful and magnetic presence that elevates each scene whenever he's on screen.

The main reason why I watched all six episodes of *Into the Badlands* is because it really is a beautiful show in many aspects. There are, of course, very beautiful actors and actresses. However, the show's main selling point is the martial arts, the magnificent and awe-inspiring fight sequence choreographies. They are very reminiscent of *Crouching Tiger, Hidden Dragon*, in which the laws of physics are more ignored than the "No Talking, No Food" signs in the pharmacy building's third floor study rooms. The action scenes are truly beautiful dances of limbs, blood and sharp objects. If I could actually convey the beauty of these wushu fights effectively, then I would have probably gotten higher grades on my health system papers.

Season one ended with several unfinished plots and cliff-hangers. Furthermore, we have only scratched the surface of the universe's lore, which is reportedly based on *Journey to the West*. Despite the growing pains of *Badlands*, it shows a lot of potential and I will be eagerly waiting for a sophomore season.



How to Actually Keep Your New Year's Resolutions!

By Leyla Warsame (1T7)

"New Year, new me!" It's that time of year again where everyone talks about elaborate schemes and goals they want to accomplish in 2016, when, in reality, many grand plans fall to the wayside in favor of Netflix, Chipotle and general procrastination.

Not this year though! Here's five tips to help you accomplish your New Year's resolutions, whether it be to lose weight, eat healthier, get better grades or finding a "study" buddy :)

1. Check your intentions

Do a bit of soul searching and find out why exactly you want to implement changes in the upcoming year and use that reasoning as motivation to propel you on the right path. It sounds vague, I know, but the majority of the time reflection goes a long way to enacting change.

2. Break out the stationary and write down your Top 5 goals

Gather all your brand-new-for-the-semester highlighters, markers, glitter, poster boards and what not and actually write down your goals! This would be like a master to-do list that you should post on your wall and check off throughout the year. It's a great daily reminder to see what you want to do, how far you have to go and how much you've progressed!



3. Get someone to hold you accountable

Whether it be telling your best friend, sister, brother or 230 followers on Instagram, having people know your goals and silently judging you for straying from them is pretty helpful.

4. Track your progress

Reflect on your goals/resolutions routinely (weekly, monthly, semi-annually...)

5. Treat yourself!

Reward yourself for things you've accomplished no matter how big or small and use that feeling of accomplishment to keep you on the right track!

Now, I'm not an expert but I have found that the years I've actually taken my own advice

(which I do here and there) I may not have completed everything on my list, however, I would end up completing the majority of the things I wished to accomplish that year. It's a pretty great feeling and it is a testament that I can accomplish what I set my mind to! Except becoming more punctual, that's a resolution I've still haven't managed to keep. Good luck!

Pharmasass: An Interview With Mom

By Anonymous 1T9

For the last few weeks, my dear mother has had the (mis)fortune of hearing me complain about the 8 exams I endured last term. In early January I began to sense that she was growing tired of my complaints, so I sat her down and asked her to tell me what she thought of the PharmD program. I have transcribed the conversation as follows:

ME: Hi Mom.

MOM: Hello darling.

ME: Ok Mom I only have like a page and a half so just talk when you need to talk.

MOM: Ah, ok darling—

ME: MOM That's like four lines already. Ok. If you had to describe the PharmD program in 3 words what would they be?

MOM: Adjectives? Do they have to be adjectives? No? Ok then. Rewarding, demanding, insightful.

ME: What's the environment of the PharmD program like? How are the people? Etc.

MOM: Tall. Very tall.

ME: What's tall Mom?

MOM: The building. So many floors, no? How many levels? Have you met Dan?

ME: Leslie, Mom. And no. No idea how many levels. Next question: what was exam season like?

MOM: I found highlighters in the strangest places. In the bathtub, in your socks, in the toothbrush holder... all that highlighting can't be good for you. Back in my day there were nasty chemicals in highlighters that would make you hallucinate—

ME: Ok Mom this is about me not the highlight-sniffing days of the seventies. And what was I like during exam season?

MOM: Focused. Quiet, and uh, stressed.

Interests and Perspectives

ME: What was the exam that I studied for the hardest?

MOM: Oh, pharmo ... oh it was some silly word. Aerobics? Biotics? Probiotics? No, that's yogurt. Dynamics? Can you still break pills open on yogurt instead of swallowing them? Aesthetics? Or is that applesauce? Apathetics? Oh I have some apples to cut up for apple pie. Do you want pie, darling? Kinetics! It was definitely pharmokinetics. Darling, pie?

ME: Close, Mom. Pharmacokinetics. Next: do you think I like pharmacy school?

MOM: Yes. You seem to fit in. When you talk about school your eyes sparkle like the stars of the night sky. The great kings of the past look down on us from those stars.

ME: Mom! Stop quoting The Lion King and answer the question!

MOM: You like your profs, you like your friends. And, um ... the fact that you started off studying hard and getting good marks gave you positive motivation... it motivated you to study more. You seem to enjoy your subjects. You retain quite a lot.

ME: When I'm not doing pharmacy stuff what am I doing?

MOM: X-box. Gamecube? What is that thing called? Either that or you're asleep.

ME: What has been the hardest part of being in pharmacy school?

MOM: The volume of material – like hundreds of chemical compounds and drug names to memorize. So much to memorize! You need to have a very good memory and a clear mind to memorize all of that stuff. That's why those highlighters aren't a good idea...

ME: If there were one thing I could change about the program what would it be?

MOM: Maybe smaller class sizes? You're definitely doing enough chemistry and biology. What could you possibly add? I don't know. Maybe playing some background music during your lectures. Some jazz. Back to the good ol' days of the 40s where the

best prescription was a swift lobotomy. I don't know, honestly. More free food? Milk? Do they give you milk? They should give you milk.

ME: Lastly, what courses did I take last term?

MOM: Oh [expletive]. Anatomy ... um ... pharmo-kinetics. Then you had one about health ... you know what I mean? Health systems! Was that the boring one? I shouldn't say that, should I? Take that out. Then there was the one where you had to memo-

rize everything. Pharmacology. Calculations. Chemical compounds. Drugs! No, I'm making that up, aren't I ... how about that one where you were worried about acronyms? Biochemistry? Yes! I think that's all of them.

ME: (Laughing) alright, thanks mom.

MOM: No, thank you. I cannot wait to see you with your white coat with your name sewn onto it and—

ME: They're just nametags that clip on, Mom.

MOM: Oh. Well then. It's not like that on TV.

ME: What pharmacy show are you watching?

MOM: You know. Grey's, uh, Grey's Anatomy.

ME: Those are doctors, Mom.

MOM: OH. Right. We don't like doctors, do we?

ME: MOM! Ok. We should stop while we're ahead.



Credit: University of Toronto

MOM: What would they call a hot pharmacist? McDuggy?

End of interview

The conversation with mother dearest made me realize that I should establish some simple resolutions for 2016. Keep the sparkle in my eyes ("like the night sky" ... honestly, mom), find a better way to manage my stress, and take 1 glass of milk TID prn x every class.

Travelling around Campus for the Winter: A Traveller's Guide to PB's Underground Tunnels

By Jimmy Tieu, Staff Writer (1T7), Private Pharmacy Investigator

As the cold winter air and snow settle in to welcome the new year, I find myself slightly more grateful that I'm a pharmacy student. For most of us, the majority of our classes are located in PB. Here, we are kept warm in pods and lecture halls and avoid having to transfer between buildings for classes. Unfortunately, we all have to leave the building eventually... or do we? In Downtown Toronto, the PATH is a series of underground tunnels that connects a variety of office towers and represents the largest underground shopping complex in the world. Some of you may have heard about our own mini version of the PATH at PB. These tunnels connect PB to other buildings, while also providing warmth to its travellers. But where are these pathways located, and where exactly do they lead? Do they contain food and shops like Toronto's PATH? I decided it was only right to map out and investigate these underground pathways; so on a cold winter day, I set out with two friends and a piece of pen and paper.

Our journey started at the side entrance of PB B150, where the paths are initially accessible. To access the path, you must head west from the B150's side entrance and you will notice bands of red and green paint indicating its entrance. To be perfectly honest, the underground path invokes feelings of warmth, eeriness, and the occasional smell of rotten eggs.

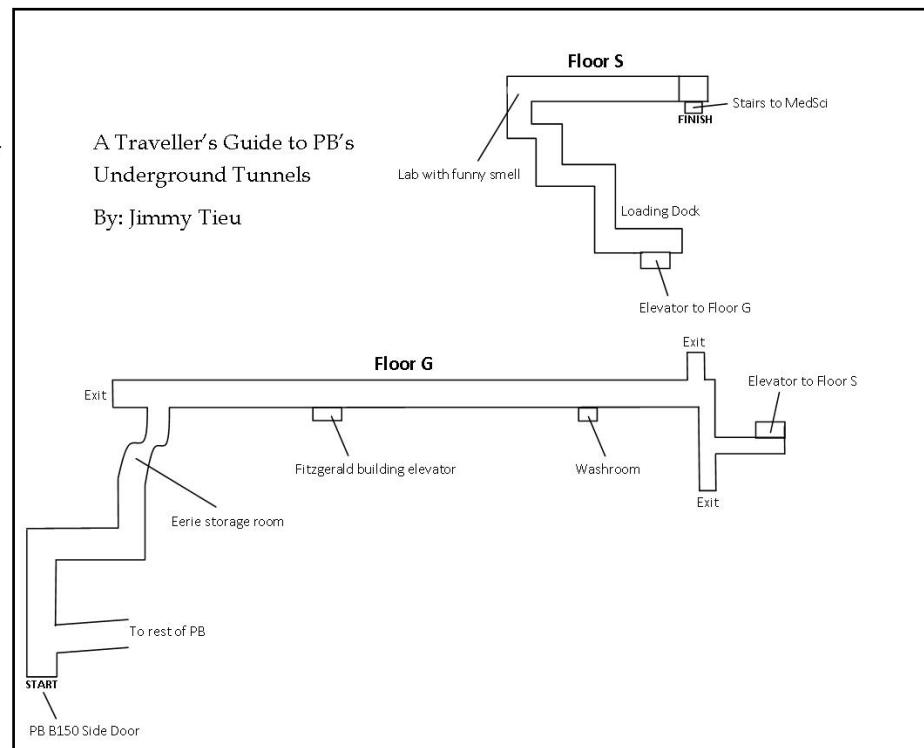
Heading through the first few doors, you quickly find yourself in a room covered to the walls with large, locked, cages containing items ranging from long steel beams to leather chairs. With the silent humming of generators in the background, this storage room would be the perfect place to film a horror movie. But as the walkway twists and turns to another set of doors, the steel cages disappear and you find yourself at the end of a long hallway. Down this hallway, the streaks of green and red paint are joined by a third, yel-

low colour, marking an elevator entrance to the Fitzgerald building. Walking to the end of the hall, there is another elevator that leads to the Medical Sciences (MedSci) building. But before getting to the building, you must briefly brave some cold air (you won't be directly outside!) as you pass by a loading dock and a lab-like area with a distinctive, slightly unpleasant smell. Eventually, after climbing a few more stairs, you'll find yourself in the heart of MedSci, since you'll be steps away from the Starbucks.

So it's clear that the underground pathways serve to connect PB, MedSci and the Fitzgerald building. But why do these paths exist? The answer became clear during our journey as we passed by many others during our walk. These paths are often used by a variety of staff to either transport heavy items or to

get away from the frigid cold.

Thus begs the most important question, what's the time difference taking the underground path vs taking the outdoor route? After some testing, walking at a steady pace from the main entrance of PB B150 to MedSci Starbucks using the outdoor route takes an average of 2 minutes and 30 seconds to complete. Meanwhile, the travelling between the same checkpoints via the underground path takes an average of about 7 minutes and 30 seconds. Although PB's underground path is not the most time efficient, and doesn't contain any shops/food, it definitely provides warmth and a small sense of adventure for its travellers.



A Walk With Me Today. A Creative Piece Inspired by the Environment

By Natasha Dogra, Staff Writer

I am walking along the shores of the lake near my home. I have removed my sandals so that I may feel the soft sand caress my feet, with every step. The cool water, occasionally rising to my ankles, creates a rim of dampness on the cuff of my pants. This does not worry me because today is a good day as the water is glistening, the water is clear.

I take a deep breath in, the air feels crisp, light and refreshing. My lungs are filled and satisfied. Today is a good day as the wind carries only air, no smoke, no smog, just pure food for my lungs.

I slip my sandals back on and begin to make my way into the forest. The trees greet me with the soothing rustle of their branches. The breeze also tickles my skin, bringing out my first smile of the day. I walk through the path in between the family of trees, hearing small snaps from the twigs beneath my feet.

I look above and see the sun seeping between the hundreds of deep green Maple Leaves. Today is a good day as the warm rays of the sun and the coolness here below are in perfect balance.

Now the ground is covered with an assortment of pebbles as I move closer to the sound of trickling water within a hidden stream. I watch as small birds float and play at the water's surface. With patient eyes I can also see that deep within this ma-



rine kingdom dance the tadpoles and small fish. I watch them in awe as they can swim so swiftly and yet so softly. Today is a good day as I see more of these creatures than before.

I see a large rock that invites me over to sit. I climb to the top and begin to rest. It's just me until I begin to see again. I look around and watch the varying elements begin to unify around me. The small animals drinking at the nearby stream, the soft sound of the moving branches above me, the silence of the flying butterflies and the funny buzzing of my neighbor, the treefrog. All of them, and myself. Today's a good day because we are all still here; together.

My peace is suddenly disrupted by the sunrise rush and it seems my walk has come to an end. The engines sound loud against the soft whistle of the mourning dove. I begin my way back heading towards my lonely and frigid machine. Taking one last glance at my dear friends in the forest, I whisper that I hope to see them all again soon. Keys in hand I brace myself as I sit on the cold, hard leather of my seat. Before I leave I just hope and pray that today will be a good day.

Doctors' Notes: An Economic Perspective

By Abdullah Aboukarr, Monograph Representative (1T7) and Jeffrey Mesdag (1T7)

Why do schools require sick notes from students for missing assessments when getting a sick note will only make everyone more sick as well as waste the time and resources of the health-care system?

What sparks this question is a recent visit I had to a walk-in clinic. I was restless, burning up, and bedridden with the classic symptoms of a flu, and I knew there was no way I'd be able to make my workshop that day. Aware of the procedure, I visited the nearest walk-in clinic to get a sick note to justify my absence. Before the doctor even assessed my condition, I paid for and was issued a sick note with the signature line left blank. The whole process seemed ridiculous, redundant, and economically inefficient.

Visiting the clinic is a costly practice. Firstly, an appointment slot is filled unnecessarily and secondly, the illness is brought to the waiting room. It is well-known that the flu resolves on its own, and with hand-washing, hydration, and rest, symptoms can subside within a few days. However, it's still a requirement to

visit doctors who will charge money for this non-covered service. Furthermore, sick notes force students who are actually ill and need rest to leave their beds, which not only worsens their symptoms, but also delays their recovery. Some may actually be deterred by the whole process and go to school instead. This increases the risk of spreading the sickness to other students.

This also promotes an ethical issue in which doctors fall into the moral hazard of increasing their profits by limiting the time allotted for patients, ultimately decreasing the quality of the evaluations. The fees received from the notes are paid to the doctor directly as sick notes are not covered by OHIP, giving the physician an incentive to give them out more frequently. This can result in doctors streamlining the diagnostic process, potentially leading to severely ill patients being overlooked and undiagnosed. Essentially, sick notes waste both the doctor's and patient's time, while putting others at risk of getting ill. This is a huge social cost to the healthcare system and the general public.

So why require a sick note? The benefit of this procedure is skewed toward the schools. The school requires the student to submit a sick note to ensure that they are not lying and costing them time, resources, and money. However, despite the evident external costs of the procedure, it appears that the school deems the cost of their own private costs more important than the costs to society. This follows the not-all-costs-matter-equally principle, in which some costs matter more than others.

Requiring a note for being absent from school is an archaic procedure with minimal regard to social costs. Moreover, the ease at which sick notes are obtained may eventually defeat the proposed purpose of the sick note. If simply explaining symptoms to the doctor is enough to receive a note, then what's to stop students who aren't sick from fabricating the symptoms and cheating the school system? Who's to say \$25 isn't worth an extra few days to study for an exam?

The Bowl of Hygeia

By Natalie Ternamian, Monograph Representative (1T8)

How many times have you passed by a pharmacy and seen the following symbol in the window? Have you noticed that the CPhA logo bears a similar insignia? I didn't know what it meant. Not until I did some digging that took me all the way back to Ancient Greece.



The Family Tree



In Greek mythology, Zeus might have been known for his thunder-wielding capabilities, but he was also the forefather of many "healthcare" gods. Zeus was the father of Apollo, who in turn, was the father of Asclepius, the god of medicine and healing. Asclepius's great talents of healing the sick became so great, that he was able to bring life to the dead. Zeus took note of Asclepius' work and, wanting to save his own powers over life and death, smote Asclepius with a thunderbolt. Shocking in every sense of the word!

Asclepius had many children who, like their father, took on roles in various health disciplines. Asclepius' three sons, Machaon, Podaleiros, and Telesphorus, received the gifts of surgery, knowledge to diagnose and cure diseases, and the ability to induce recovery onto patients, respectively. Asclepius also had 5 daughters: Aceso, Iaso, Aglaea, Panacea and Hygeia. You might think that the daughter's name, Hygeia, sounds awfully similar to the English word, "hygiene" and that is no coincidence; Hygeia was the personification of health to the ancient Greeks.

The Imagery

Asclepius is often depicted holding a rod or staff, with a serpent entwined around it. There are many theories as to why snakes are used in Asclepius' description. In the Judeo-Christian tradition, serpents are associated with evil, death and sin; however the Ancient Greeks may have used snakes to represent good fortune, wisdom, longevity and renewal. This could be because the snakes venom could be used in potions for the sick and because the animal itself could shed their skins and in essence, be "renewed".

The Woman of the Hour

It is thought that Hygeia acted as Asclepius' female counterpart, which provided a feminine divine connection to their worshipers. Hygeia has often been represented in archeology as a beautiful and modest maiden, with a serpent snaked around her arm, in the same way that the snake is coiled around her father's staff. Moreover, the snake drinks out of a bowl in her other arm. This is from where we get the imagery of the "Bowl of Hygeia". In some accounts, the chalice contains wine or medicine with life or health-restoring properties.



The Bottom Line

Today, even thousands of years later, Asclepius and Hygeia are still remembered in much more than just the pharmacy logo. Even prestigious pharmacy awards bear the title, "The Bowl of Hygeia Award". Finally, the Hippocratic Oath, the oath that is sworn by physicians, maintains, "I swear by Apollo physician and Asclepius and Hygieia and Panakeia and all the gods and goddesses, making them my witnesses, that I will fulfill according to my ability and judgement this oath and this covenant."

So the next time you walk by a pharmacy, I hope you are reminded of the story of Asclepius and Hygeia, and how they helped bring health to their worshipers in the same way that healthcare professionals bring health to their patients today.

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The Tales of ED Medications

By Shan Liu, Staff Writer (1T9)

Three years ago, in an organic chemistry class, my professor was listing examples of compounds that contain amines. She was an amazing lecturer, and her material was usually concise and explicit. But her explanation that day went like this:

"This is... um... a compound that a company called Pfizer developed... to treat... um... hypertension. And while they were running the clinical trial, they noticed a side effect, which... um... many patients seemed... to... like a lot, and they... asked for more of it..."

I think this is a tale that many chemistry and pharmacology professors are particularly fond of and enjoy sharing. When they start to giggle as they talk, or if they adopt a vague description, it is very likely that the topic is related to this drug.

Viagra, the little blue pill also known as sildenafil, was the first phosphodiesterase-5 inhibitor that could prolong the activity of cGMP and the muscle-relaxing effect upon nitric oxide release, thereby enhancing erectile function. It is an oral medication whose onset of action takes 30 minutes, and last around 4 hours. Before that, men who were troubled by this problem could be resolved by alprostadil, a prostaglandin E1 analogue. But the problem with this medication is that it has to be injected directly to the target area to be 100% effective; it takes 10-30 minutes to work, and it lasts around an hour. To this my pharmacology

professor commented, "Those poor men!"

While Viagra isn't without its short comings, it is definitely easier to administer, and has a much longer duration of action, which explains its popularity in its initial heart clinical trials. Due to the nature and stigma of this particular matter, patients were reluctant to explain what the side effect was. When they figured out the myth, Pfizer realized the enormous market for this drug. Viagra were approved by the FDA to treat erectile dysfunction in 1998, and from 1999 to 2001, it reached 1 billion dollars in annual sales.

Many similar products also came into market subsequently. Cialis, for example, can last up to 36 hours. But this is not to say that Cialis trumps all other ED medications, or that anyone with ED should be on these medications. They do lower the blood pressure, and can have additive effects when taken concurrently with alpha-blockers or nitroglycerin. The word "Cialis" is also a last name, and the family fought to prevent ridicule when the drug was set to launch.

Just like science students like to discuss alcohol dehydrogenase polymorphism when they drink, the development of Viagra and other ED medications might be another bit of fun scientific trivia that we enjoy sharing.

Tech Talk: VRs and Drones flood the CES

By Yannan Liu, Staff Writer (1T9)

With technology becoming ever more present in our lives, we are constantly trying to find gadgets to make our lives just a tad bit simpler. And while it is sometimes difficult to keep track of everything that goes on the market, companies usually debut their innovations at the Consumer Electronics Show (CES), hosted every year in Las Vegas, Nevada in January. Considering this past week's show was its 48th iteration, it is no surprise that some of the most significant products in our lives showed off here first. Just three years ago, Ultrabooks were first found here. About 12 years ago, Blu-Ray discs were showcased here before becoming ubiquitous today. Remember VCRs? Well in the 70s, those gigantic videotape machines were first unveiled here. And while many critics are doubtful that this year's products are revolutionary, we are certainly seeing what will probably be a stepping stone to the future of our consumer electronics in the coming decade.

The biggest story this year is probably the surge of virtual reality products that have emerged. Oculus Rift lead the show with a multiplayer gameplay demo called Toybox, whereby players



can play with fireworks, laser guns, and shrink rays, and truly interact with their virtual world. HTC also showcased their model of the product: Vive Pre, which was attractive to many due to its compactness. And finally, France's take on virtual reality in

the form of the 3D Rudder incorporated a physical component by adding a pad that users can step and walk on to add that extra dimension of realism.

The other big headline this week in Las Vegas was drones, which were just everywhere in the booths. These unmanned systems ranged from amateur toys to filmmaker standard drones for video camera positioning as well as for 4K video. The rest of the electronics show included other products trying to bring 4K into mainstream such as 4K Blu-Ray players and even more televisions. Thinner laptops and tablets were also of the norm, as more and more stronger machines adopted a more compact and slim model.

All in all, the week wasn't so much innovative as it was progressive, but it was definitely a hint of what's to come in the upcoming years.

Check out the Pharmacy Shout-Outs below! If you forgot to give a shout-out this issue, not to worry! We'll be featuring the "Pharmacy Shout-Outs" in every issue of The Monograph!

Enjoy!

Lucy Li - can you please teach me fashion? You walk into class looking like D&G SS16 and I walk into class looking like a bean bag.

Shout out to the very Korean Phillip Kim for always being there for us all. We're all better for having you around, and don't appreciate you outwardly enough! Keep doing you, you put the 'we' in phami-we! (say that out loud, it reads better that way)

Shout out to those that don't know the opposite of in
- Ash

Simon Oh, I've had a crush on you since the frosh week. Your gentle gestures and adorable smile give me butterflies in my stomach. Thinking about you and dreaming about our future together has really helped me get through hardships in life. I'm ready to spice up our relationship with romance.

Shout out to all da thirsty peeps of PB!

Shout-out to Abdullah for being such a solid guy! You were there for me when I needed someone the most. Not many people will forego a whole evening of studying less than 2 days before a final exam worth 50% to console a friend; but you did, and that meant so much to me. If the world was full of people like you, it would be a beautiful place.

A shout-out to Samantha Li - thank you sooo much for that crash course about Gastroparesis right outside the examination hall 10 mins before the endo exam. ;) What a perfect summary of all the drugs and guidelines without which I would have left that care plan completely blanked!! Thank you very much once again!!! :) :)

What would I do without you Matt, you are my other half. I do everything with you
xo D. Shan

Shoutout to the angels for being amazing. So proud of you guys!
#4thplacenationals

Shout out to all the chillers who stayed radical and kept it rather 1738 this semester y'all some beauties.

Shoutout to J.Wells!! If you don't know who he is, you eventually will =D

Ashley, from the moment you sat on my french vanilla, I knew you were the one for me.

Shoutout to Dana, ever some i met you i had butterflies in my stomach. Let me know when you wanna Smash again.....ON THE Wii GAME OF COURSE!! - Matt

Shout out to ShiShi for being my lover/best friend and sharing your chocolate with me.

Yo Sunny G. where is my 20 bucks??? Lannisters shouldn't be the only one to pay their debts back.

Shoutout to Master Chiu, or should I say, Sifusan for getting his Masters in Science. If you ever wanna study my physiology, you know who to call ;)

FARAZ! I don't know what I'd do without you...keep up the good work!

Shout out to the federation for making these years worth it and keeping each other from going insane :) :)

Shane Nirula, working harder for students than any other student in the recent history of pharmacy. He comes in the early mornings, late nights, even during the Christmas Break! Thanks for all the time and hard work you've put in to make our student experience better.
- Becca Zhang

Happy birthday to everybody's favorite med-school dropout, Sarosh Tamboli. I hope your 2016 is a year free of regrets, trust issues and public health screenings. God bless you: you're kinda like Stacy's mom - you always got it going on. I'll see you in the gym.
- Mark Hoang , Class of 2T0 (probably)

Study Break!

Rx Search

By Selwyn Chui, Staff Writer (1T9)

Find the drugs in the array below (Can be read in any direction)

I B Z O C K S K U Y L I F W E L J M E B M U U T F E B B D N
N I R O P S O L C Y C L E T D O W Y C N N K U C X V Q H I K
S A E F B V A F L P U L A P K L U X H T O A X R L Z Y C B V
U U C W Z C H I R O I D S K S O J Z O X I I L N T A A Y U A
L Q R E T L D K R R I X U O Y R V L T R U F H P A N C E P F
I V P A T O G O P N L T Y Y J P K N H B Y T F T E Y J N R E
N L S C C A U I E H Y D R O C O R T I S O N E F A Y J S O W
W E D A J R M H L F I K T Z S R Z W O D I Y I X Q T S H F R
W O I G A A P I Q W E S L Y S T A M P V A L S H Q U U K E E
B N F C R | L B E N Z O C A I N E C A H K O M W S I U N L N M
E S I Z Y F P S D O O H R T J M E P A S U K U K G J J F G Z
V L A H L T J Z H P P X K V C I D E T T Y P L O T P L S D I
H D T L E T H A N O L H A S O E F Z E E I A V J C S C C H F
B E A H B X I R V A H B E J C P T A G L E E V E C E I G U Y
M A H Y F U R K W A Q H D N U X A I N L Z P E N I P O R T A
P T H N I I T L O M A T U B L A S D L I E A J V U A M M M N

ACETAMINOPHEN	ATROPINE	BENZOCAINE	COUMADIN	CYCLOSPORIN
DIAZEPAM	ECHOTHIOPHATE	ETHANOL	FLUOROURACIL	GLEEVEC
GLUTATHIONE	HAVRIX	HYDROCORTISONE	IBUPROFEN	INSULIN
LACTASE	LIDOCAINE	LSD	METHYLPHENIDATE	METROPROLOL
PLANB	RAMIPRIL	SALBUTAMOL	SOLIFENACIN	TECTA
TUMS				

Therapeutic Ditloids

By Selwyn Chui, Staff Writer (1T9)

Ditloids are a word puzzle where you must deduce a phrase or fact from abbreviated letters and numbers. It originated from a Dailey Express newspaper from the clue "1 DitLoID" = 1 Day in the Life of Ivan Denisovich. Try these pharmacy-related ones for size!

Example: 2 E in a D = Twelve eggs in a dozen

1. 4 Y in PD P = _____
2. M H 2C of X and Y C = _____
3. OTC M are U or S3 = _____
4. B & B D I at UT = _____
5. "Q6V" on βG --> SCA = _____
6. 4 N B in D N A = _____
7. DS = T21 = _____
8. L D F of P on 144 C S = _____
9. D S the P! (2008) = _____
10. TW of P = 10 T 20 M P M = _____

Answers from the Last Issue

Cryptogram Answer – Close call for the patient

Take three amoxicillin capsules, three times per day until finished." "But, I'm allergic to penicillin - is that a problem?" "I see, then let me get you started on clarithromycin instead."

Puzzle Answer "If I had to be trapped anywhere for the rest of my life, it'd definitely be Costco."

All 50 of the blue-eyed pharmacy students will leave on the 50th day.

To figure this out, consider a simpler case where only 1 student has blue eyes. That student will see nobody else with blue eyes, and realize his/her own eye colour is blue, thanks to the keener. What if there were 2 blue-eyed students? Each blue-eyed student would see 1 pair of blue eyes and will both think that, "if I don't have blue eyes, that blue eyed student will leave tonight." Both will wait until day 2, and see that neither has left – so they realize they must both have blue eyes, and leave on the second day. If there were 3 blue-eyed students, a similar thought process would occur; "I see two blue-eyed students, so if they both leave on day 2, I know I don't have blue eyes – but otherwise, I have blue eyes and I'll leave on day 3." This logic goes on until day 50, leading us to the answer.



By Abdullah Aboukarr (1T7)

University of Toronto's
Gerstein Science Information Centre
THE LARGEST ACADEMIC SCIENCE & HEALTH SCIENCE LIBRARY IN CANADA

Three images of the Gerstein Science Information Centre. The top image shows the interior study area with orange armchairs and a high ceiling. The bottom-left image shows another study area with large windows overlooking a snowy landscape. The bottom-right image shows the modern brick and glass exterior of the building.

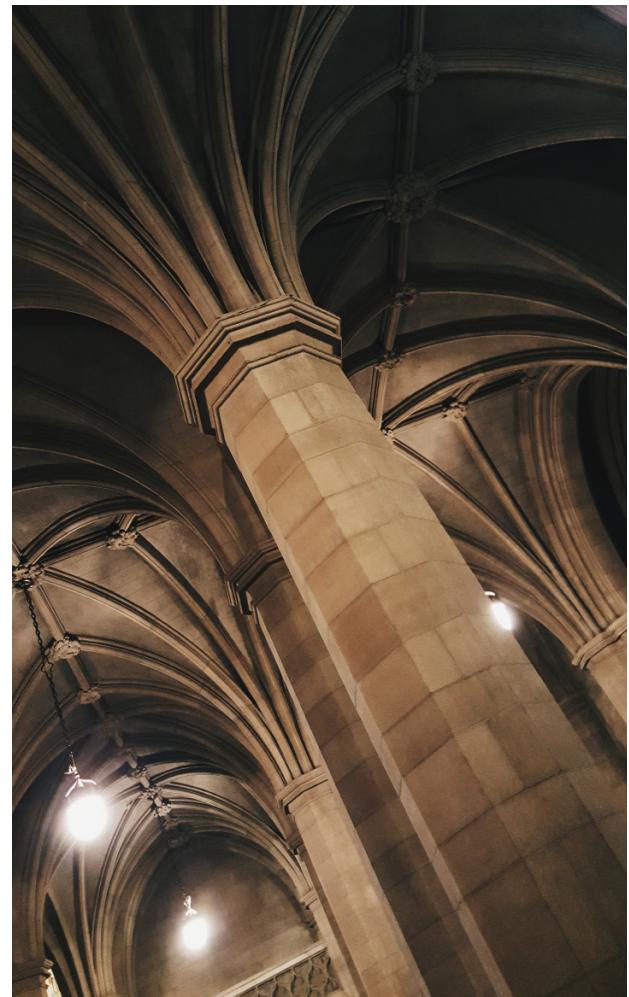
Provides

quiet and group study space | research consultations | computers, copiers, printers, and scanners
collection of over **one million** items | pharmacy eResources: guides.library.utoronto.ca/pharmacy

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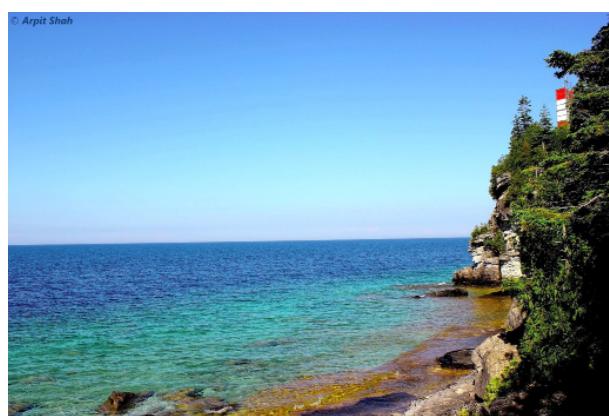
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Art Attack!



"Flowers" By Mengdi Fei (1T8)



"Winter from the 613"
By Vincent Nguyen (1T9)



By Arpit Shah (1T8)