

Pharmacy Phile

University of Waterloo School of Pharmacy

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President and VP's Address

Ahhh, summer in Waterloo, what a wonderful and magical time. The patio's are buzzing, the sun is shining, the birds are chirping, and the ION casually comes to a halt in front of the School of Pharmacy... Yes, you heard correctly, the ION is finally running.

Welcome back to another term at the University of Waterloo School of Pharmacy! This term is especially exciting as it is the first time the Rx2021's are sharing the school with the Rx2022's! Hopefully this will be the start of some new friendships and some new sports rivalries.

The summer term at the School of Pharmacy, as per usual, is jam packed with events. From the annual Blue Jays game hosted by SOPhS Athletics, to career panels from S2BN, literature reviews by Journal Club, therapy dogs from RxPRN, a paint night and ice cream fundraiser from CAN and finally CAPSI's OTC week, there will be a lot to do. This semester will be all about balance because, hey, Pharmacists can *and should* have fun too!

This year we are also proud to present "Beach Weekend" on the weekend of July 19th, consisting of CAPSI's annual Beach Volleyball Tournament at Bobby O'Briens in downtown Kitchener and SOPhS' annual Beach Day at Grand Bend! We hope to see you all there at both events!

In early June, the CPhA and OPA hosted the inaugural combined PxP 2019 conference that welcomed pharmacists, students, professors, and various other leaders of our profession from across Canada. SOPhS would like to congratulate two Rx2021 students, Bradley Grightmire and George Daskalakis on their dedicated pursuit of expanding the pharmacy profession. These two students proposed two motions at the OPA's Annual General Meeting at PxP 2019 regarding increasing the representation of students in OPA's operations, and the creation of an OPA Pharmacy Student Committee. Both of these motions were passed and demonstrated the greater sentiment of Waterloo students going above and beyond the call of duty. We would also like to congratulate

late former SOPhS president and Rx2019 student Naushin Hooda on receiving the Student of the Year Award from the OPA, which was also presented at PxP. It is students like Brad, George and Naushin who make the University of Waterloo School of Pharmacy truly world-class.

On the topic of mental health, our faculty has been working tirelessly to improve the services available to us students. Starting immediately, students will be able to use the taxi service to travel to the main campus for counselling appointments. Moreover, beginning in Fall 2019, an additional female counsellor will be on-site in the Pharmacy building every Wednesday after-hours from 12:00pm-8:00pm. Please join us in thanking our amazing faculty when you see them in the halls for listening to our needs and taking swift action!

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President and VP's Address (cont.)

On another note, this is our first Pharmacy Phile newsletter as we kick off our SOPhS tenure – but before that, we would like to express our sincere gratitude to your past president and vice-president, Tarun Fernandez and Alice Xu. Tarun and Alice worked night and day over the past year to make our Pharmacy School experience the best it could be. We are humbled to be taking over the reins, and boy, do we have massive shoes to fill. Thank you to all of the students who are putting their trust in us to enrich your social and

academic lives during your time in Pharmacy School – we promise we will not let you down. If we can be just 10% of the leaders that Tarun and Alice were, it is without a doubt going to be a year to remember.

Best of luck to the Rx2022's on their final semester without the IPFC grind, and best of luck to the Rx2021's who are starting to develop mild hypertension from studying IPFC-4 (we're only half kidding).

Sincerely yours,

Kean Sarani & Meena Shweitar

Society of Pharmacy Students President & Vice-President



CAPSI Corner

Now that we're at the halfway point of the spring term, it's time to talk about what UW CAPSI has been up to, and how we're planning to wrap up the month of July!

Council Updates

As we finalize our CAPSI council for the 2019/2020 year, we'd like to welcome two new members:

Ezgi Ulkuseven for the position of Junior Competitions Coordinator

Charina Alducente for the position of Communications/CAPSIL Director

We look forward to working together to bring the student body many more CAPSI events and initiatives!

PxP 2019

At the beginning of June, our Junior National Representative, Kiarah Shchepanik, and our Senior National Representative, Mikaela Ney, attended the PxP 2019 Conference, alongside other Junior and Senior Representatives from pharmacy schools across Canada. At the conference, they participated in various committee meetings to ensure that our needs as students were heard and discussed on a national level. Topics discussed include: a new initiative for this year that focuses on pharmacy student mental health, as well as the announcement of the next national charity, the Breakfast Club of Canada, which provides nutrition programs across the country. Thank you to Kiarah and Mikaela, for being great leaders and representing UW CAPSI

well at PxP!

OTC Week

The first week of July is our official OTC Week for this year! Make sure to check out all of the great events happening throughout the week – we have a social media challenge running all week (keep your eyes out for all 5 questions on UW CAPSI's Facebook page and Instagram!), Trivia Night @ McCabes (6-8pm) on Wednesday July 3rd, and Mock OSCEs (6-8pm) and Succulent Sale on Thursday, July 4th.

Beach Volleyball

One of our most anticipated events of the year is just around the corner: UW CAPSI's Beach Volleyball Fundraiser! Along with supporting this year's national foundation, The Canadian Lung Association (<https://www.lung.ca/>), the local charity we have chosen to support this year is The Global Fund (<https://www.theglobalfund.org/en/>).

Keep an eye out on UW CAPSI's social media platforms for more details about this exciting event!

That's it from us! Good luck, work hard, and don't forget to enjoy the warmer weather, whether you're on school term, co-op, or finishing your rotations!

- Charina Alducente, UW CAPSI Communications/CAPSIL Director



OPA Update

Think about why you are an OPA member

It is to support your provincial advocacy body. Less members, means less advocacy. Other professions like medicine do not face that problem; membership is mandatory.

However, supporting something is not solely payment of a fee.

*Supporting your advocacy organization means that **YOU** should have the opportunity to advocate and get involved.*

While OPA has worked tirelessly to create those opportunities, both OPA and students recognize that we can do better.

UW students demand change to the board of directors

That's why two pharmacy students from Rx2021 – George Daskalakis and Bradley Grightmire – took it upon themselves to strengthen this relationship.

At the PxP conference the OPA held its Annual General Meeting, Daskalakis and Grightmire successfully led two motions:

“Be it resolved that OPA create more numerous and diverse events at the Ontario Schools of Pharmacy”

“Be it resolved that OPA create new student representative positions for students within the association”



OPA Update (continued)

So what's next?

In the coming year, expect to see some very serious change:

Change in events—less opioid dinner and learns, more advocacy.

Change in opportunities for your to advocate

- OPA has many committees, rarely open to students. Expect the creation of a new committee consisting of students and OPA executives with the goal of developing better methods for student engagement
- Moreover, an expansion of the existing UW and U of T OPA student councils will occur

First thing is first, the recent chair of the board of directors of OPA—Mike Cavanagh—is making a trip to our school on July 11th to give a talk. This marks an incredible step in the right direction to strengthening the alliance between OPA and the pharmacy students of Ontario.

Acknowledgements

The UW OPA Student Council wants to acknowledge the work of Louis Wei—the former OPA student representative from Rx2019. He industriously fought for strengthening this relationship while he served on the board of directors of OPA. Louis' passion and work were absolutely essential in creating the momentum necessary to pass these motions.

Sincerely,

UW OPA Student Council



ONTARIO
PHARMACISTS
ASSOCIATION

Advocating Excellence
in Practice and Care

CSHP: Therapeutic Drug Monitoring

Therapeutic drug monitoring (TDM) is generally defined as “the clinical laboratory measurement of a chemical parameter that, with appropriate medical interpretation, will directly influence drug prescribing procedures”.¹ It combines pharmaceutical, pharmacokinetic and pharmacodynamic considerations to use plasma concentrations to inform changes in drug therapy. Pharmacists receive relatively more pharmacokinetic training than other members of the healthcare team and can bring significant value to TDM. In fact, many hospitals have specialized pharmacists that are specifically trained to provide this service. This is a great opportunity for pharmacists to demonstrate their value to the healthcare team by providing special expertise to a valuable service.

The indications for TDM include assistance in targeting a therapeutic range, avoiding toxicity, assessing compliance and drug-drug interactions. However, there are relatively few drugs that TDM is useful for. In order for a drug to be a candidate for TDM, there needs to be a demonstrated relationship between dose and blood concentration, and between blood

concentration and effect. There should also be variability in blood concentrations that different people get from the same dose of the drug (i.e. we can't assume all people will get the same blood concentration from a certain dose). Examples of drugs where TDM is useful include antiepileptic's like phenytoin and carbamazepine, immunosuppressant's like tacrolimus and sirolimus, and the cardiac drug digoxin. Aminoglycoside antibiotics and vancomycin also use TDM and are commonly dosed and followed by pharmacists in acute care settings.

In order for a drug concentration to be useful, the time that the sample was drawn has to be considered. It's also important to know when the regimen was initiated and how many doses have been given before the level was taken. Many therapeutic ranges are written in terms of trough concentration targets, which occur right before the next dose of a drug is taken. This means that trough levels of the drug must be taken in order to compare accurately. Without knowing the timing of the sample, interpreting the concentration and adjusting dosages can be dangerous. Proper documentation and communication between the nurse, TDM lab, pharmacist and physician is critical for the concentration

to be interpreted properly. Samples should usually be taken when the drug has reached steady state unless there is reason to suspect toxicity. If the drug has an especially long half-life, levels can be taken before steady state is reached to ensure that the level is not above the therapeutic range. Other important factors to consider when interpreting a TDM value include patient demographics such as age, ethnicity and disease state.

When used appropriately, therapeutic drug monitoring is a powerful tool to help individualize drug therapy for patients. Pharmacists will continue to demonstrate their value to the healthcare team by playing a major role in this process.

References

- 1)Kang, J., & Lee, M. (2009). Overview of Therapeutic Drug Monitoring. *The Korean Journal Of Internal Medicine*, 24 (1), 1. doi: 10.3904/kjim.2009.24.1.1

Faculty Spotlight: Wasem Alsabbagh

Interviewer: Tina Thomas, Rx2020

Dr. Alsabbagh received his Bachelor of Science in pharmacy in 2000 from Damascus University in Syria. He moved to Canada in 2004, and started the International Pharmacist Program at U of T in 2005. He received his PEBC and Ontario licence in 2006, and his NABP with Michigan licence in 2007. He practised as a hospital pharmacist in Orillia, Ontario, until 2008, and then moved out west to start an MSc in clinical pharmacy at the University of Saskatchewan.

He transferred to the PhD program in 2010, and started his tenure-track appointment with the School of Pharmacy at the University of Waterloo in October 2014.

Dr. Alsabbagh's research focuses on pharmacoepidemiology, drug safety and effectiveness, and delivery of pharmaceutical care, especially in vulnerable populations and among individuals of low socioeconomic status. During his PhD program, he performed research on medication adherence, socioeconomic status, and major health outcomes using population-based data from Saskatchewan's Ministry of Health. He has published on pharmacy practice research and has performed a systematic review in addition to conducting several drug use research studies.

--OPEN Network

Interview Questions:

What made you choose pharmacy as your future career path?

I always admired the profession of pharmacy, as my mother was among the first female students to enter pharmacy school in Damascus in 1971 (albeit she did not finish!). Her friends and colleagues were pharmacists and described the interesting career paths this profession can lead you to. High school students in Syria who obtain high grades in their national high school exam (Baccalaureate) have the ability to choose one of the "top schools" in university that include medicine, pharmacy and dentistry. Pharmacy was the natural choice for me as I had clear knowledge about

this profession and I scored high grades in chemistry, physics and math. Additionally, the two other options were not as attractive to me as my older friends who started these ahead of me did not really give me a lot of encouragement! I have to say that my understanding of the role of pharmacists evolved over time as the profession itself evolved. While in school, the practice that is modeled on providing "pharmaceutical care" was starting to gain momentum and that changed my vision of the ideal pharmacist from an expert in pharmaceutical preparations to an expert in pharmacotherapy – how pharmacists are described now.

Of the many classes you teach at the School of Pharmacy, which is your favourite and why?

My favourite class that I teach is definitely IPFC-4 (cardiology module). This is a common health condition and extremely important to every clinician. I try my best to help students gain the skill of critical appraisal of available knowledge through careful examination of the literature and application into the care of a specific patient. I try not to tell students what to do. Rather, I try to explain what the guidelines say, and what the evidence shows. Then, I leave it to the student to develop the "clinical instinct" that is evidence-based and takes into account patient's values and preferences. Watching students develop this skill is so rewarding. Additionally, watching this skill at action, when I receive a fax from a recent graduate in the community or in hospital, is so rewarding. I understand that not everyone would be comfortable with this approach right off the bat, but I hope that most students appreciate this approach. I always say to students – which became my cliché – "embrace the grey" and "know the bottom line".

Tell us about your research interests and why you think they are important for the profession.

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My research is focused on examining population-based administrative databases to assess the efficacy and safety of medications on large populations, as well as the effects of various health policies on health outcomes. This is an interesting area of research as it shows the “real-life” state of medication and effects of health policies on outcomes. Unlike randomized clinical trials, where everything is controlled, we just observe what is happening in the community and try to draw conclusions that accurately try to explain the reality. I have special interest in vulnerable populations such as people with low income. I focus now on the safety of multivitamin supplement using linked administrative databases, the effects of opioid prescribing level on opioid-mortality and morbidity, the cardiovascular safety of Alzheimer medications, and the impact of influenza vaccination on cardiovascular outcomes. I also research the impact of non-dispensing activities of pharmacists (i.e. expanded scope activities) on health outcome among vulnerable populations. Each one of these areas has its own merits and challenges. However, what is common among all of them is that they all use statistical methods to unravel relationships between different variables or phenomena to describe real-life events. As such, several students who have this passion of data and statistics approach me for independent studies course.

What was the most interesting or memorable patient case you encountered in your career?

Although I did not care directly for this patient, but his case was essential for me to trigger my passion for low-income patients and the role of public pharmacare in Canada. While practicing as a community pharmacist, I received a call on a Sunday evening from a hospital physician who was very upset. He described the case of a patient who was sent home two days earlier (i.e. Friday evening) on dual antiplatelet therapy for his newly inserted stent after an acute coronary syndrome. Unfortunately, the limited use (LU) was not provided for the second antiplatelet (Clopidogrel) and the patient was deprived from this until Monday – until the LU is figured out. Sadly, the patient was readmitted with a stent-related clot on Sunday. This case opened first my eyes on the cost-related issues of medication adherence. The cost of this medication is estimated to be \$30 – which may be not a lot for most of us, but in fact for some patients it is – and was the main reason this patient did not receive his medication. On the other hand, it reminded me of the important consequences of decisions we make on daily basis on

the lives of patients and the cost of health care system. I always remember this case when I teach the health care system in Canada, when I teach cardiovascular medications, and pharmacy professional practice. I also remember this case when I examine the effects of health policies on low income patients.

Where do you feel that pharmacists can have the biggest clinical impact on the lives of their patients?

I do believe that pharmacists, as the most accessible and most visited primary health care provider, can play a vital role in primary health care realm. We have shown that one third of unnecessary emergency department visits in Ontario can be avoided if pharmacists are empowered to practice to the full scope of their profession. One can extrapolate these findings to other areas of the health care system. The main point is that pharmacist can –

and must- play a vital role in caring for patients to improve their health and save the system. The newly announced initiative in Ontario of minor ailment prescribing for pharmacists is definitely a step on the right way, but the road is still long ahead.

What is your number one piece of advice for our graduating students (Rx 2019) as they start their professional careers?

Know and believe in your abilities to care for patients. Do not shy from self-promoting within the health care system. This is not selfish. Rather, by promoting your professional role, you are serving your patients better. It is a win-win situation.

Just for fun, if you weren't a pharmacist, researcher, and professor, you would be a...

Definitely I would be a pilot. I love to travel. I always look for travel opportunities (can you tell, I immigrated and traveled half the world to pursue my dreams).



SOPhS Communications




Have an opinion about our expanded scope of practice? Experience something on co-op that you'd like to share?

SOPhS encourages you to submit an article for the Pharm Phile newsletter! Submissions can be sent to pharmsoc@uwaterloo.ca by the end of every month for inclusion in the next edition!

If you have any interest in becoming involved with the SOPhS Communications Committee please send an email our way!

SOPhS 6 Week Calendar

 Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week 1 July 28	29	30 Classes end	31	August 1	2 On-campus examinations begin	3
Week 2 4	5 Civic day	6	7	8	9	10
Week 3 11	12	13	14	15	16 On-campus examinations end	17 Grades begin to appear on Quest
Week 4 18	19	20	21	22	23 Co-op work term ends	24
Week 5 25	26	27	28	29	30	31
Week 6 September 1	2 Labour day	3 Co-op work term begins	4 Classes begin	5	6	7

SOPhS Calendar Notes: Please note that event dates may be subject to change Contact SOPhS if you are unsure of an event date. You may also find this information on the SOPhS Google Calendar (<http://tinyurl.com/jo3awk7>). If you would like to add an event to the SOPhS calendar please email the SOPhS secretary at secretary@sophs.ca.