

# PHARMACOLOGY NEWS

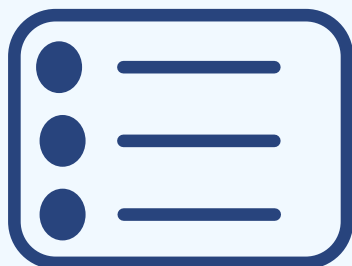
## WINTER NEWSLETTER

Submitted by Jill Rourke

CSPT

SCPT

### In this Issue



- Reminder to renew your membership
- 2024 Conference: Save the Date!
- Education News
- An interview with community engaged learning students
- Tribute to the first CSPT Mitacs postdoctoral fellow
- Clinical Pharmacology and Toxicology Spotlight
- Hot off the press: Updates from CJPP

### Join Us! Become a CSPT Member

Members of CSPT have expertise in a broad range of fields, covering basic, clinical and translational research. Don't miss out on the opportunity to connect with experts, build collaborations, serve on committees, and gain access to the **unique opportunities that are available to members.**

1

Publication, research/service and presentation **awards**

2

Conference travel **support for trainees**

3

Conference registration **fees reduced**

4

Society governance and **leadership opportunities**

5

**Mentorship** program

6

Access to webinar series, **job postings**  
**and newsletters**

**RENEW**  
**TODAY!**

# A Message from the Conference Organizing Committee

## By Dylan Burger

It is a true pleasure to be able to host the 2024 Scientific Meeting of the Canadian Society of Pharmacology and Therapeutics in Ottawa. The meeting will be held from **June 17th-19th** at the Shaw Centre; a modern event space in downtown Ottawa.

This is the first time that Ottawa has hosted the CSPT Scientific Meeting. To highlight Canada's top-tier therapeutic development efforts, the CSPT Scientific Meeting will unite **biomedical and clinical pharmacology** through interdisciplinary sessions and ample networking opportunities

The theme of this year's meeting is "**Cutting through the nonsense**". It has been chosen to underscore a focus on genetics, pharmacogenomics, and precision medicine as well as the ever-increasing importance of rigor and reproducibility. The program features exciting topics including cancer pharmacology, cell-based therapeutics, clinical toxicology, membrane protein pharmacology, and implementation of precision medicine.

### Pre-Meeting Symposium

The meeting will offer a **full-day premeeting Symposium entitled "Core Concepts in Clinical Pharmacology and Toxicology"**. The course will cover drug development and approval, clinical trial design, pharmacogenetics clinical practice guidelines development, therapeutic drug monitoring, clinical pharmacology consults, and more. It promises to be must attend for current and prospective health care providers with an interest in drug action. You can find program and registration details for the pre-meeting course [here](#).

### Trainee Development

Trainee development is central to pharmacology progress and the meeting promises an unsurpassed trainee experience. There is a generous offering of awards and distinctions including the "Top 10 Trainee Abstract Session" which showcases leading Canadian pharmacology across all disciplines. In addition, the Trainee Organizing Committee has built a series of professional development **sessions focused on teaching, mentorship, getting jobs in industry, the academic hiring process, and grant writing.**

### REGISTER TODAY!

Registration and abstract submission is now open.

**Special discounted rates available** at the [Chateau Laurier!](#)

Registration - [click to register](#)

Abstraction Submission - [click for more information](#)

Abstract Submission Deadline: March 15, 2024

[Hotel booking](#)

# EDUCATIONS NEWS

## CSPT Education Committee's Webinar Series

Members of the CSPT Education Committee have been hard at work setting up a stellar lineup of workshops, webinar's, and trainee research highlights.

- Jan 12, 2024      **The Use of AI to Advance Drug Development & Patient Care!**  
Christine Allen and Muhammah Mamdani, University of Toronto
- Dec 8, 2023      **Exploring the genomic architecture of cisplatin-induced ototoxicity:  
Leveraging large biobanks and single-cell sequencing**  
Dr. Britt Drögemöller, University of Manitoba
- Dec 8, 2023      **Characterizing a metabolic phenotype susceptible to SAT1-targeted  
polyamine depletion in triple negative breast cancer**  
Dr. Tom Velenosi, University of British Columbia
- UPCOMING**  
**Feb 29, 2024**      **On the Cutting Edge: CSPT's Postdoctoral Researcher Showcase**  
Dr. Sarah Cummings, Dr. Wan-Chun (Kathy) Chang



## Free Open Access with CJPP

### **Canadian Research Knowledge Network (CRKN)**

Building on Canadian Science Publishing's (CSP) long-term partnership with the [Canadian Research Knowledge Network](#) (CRKN), the organizations established a "[made in Canada](#)" [open access agreement](#) which enables corresponding authors from CRKN-affiliated universities to publish free and unlimited open access in the *Canadian Journal of Physiology and Pharmacology*.

### **Federal Science Libraries Network (FSLN)**

The CSP partnership with the [Canadian Federal Science Libraries Network](#) (FSLN) enables corresponding authors from FSLN-affiliated agencies to publish free and unlimited *open access* in the *Canadian Journal of Physiology and Pharmacology*.

Not sure if your institution is a member of the CRKN or the FSLN? Check out the list of applicable institutions here: <https://cdnsiencepub.com/journal/cjpp/publication-fees>

# Community-Engaged



## LEARNING

By Brad Urquhart

### Students from Western University get to work on a pharmacology glossary



Meet the CSPT community engaged learning student team! Pictured from left to right are Rachel, Angela, Nandini and Myco who are 4<sup>th</sup> year students at Western University completing their capstone course in collaboration with CSPT. For the 2023-2024 academic year these fantastic students have worked with Drs. Fabiana Crowley, Antonios Diab and Brad Urquhart from CSPTs education committee. Let's find out what they've been up to this year!

#### ***Please tell our membership about the course you are taking.***

Our program at Western University (Interdisciplinary Medical Sciences) mostly focuses on the scientific details of medical science. This course zooms out to the bigger picture. We look at important aspects like empathy, homelessness, drugs of abuse, EDI. For CSPT coming into this it's also a focus on scientific communication. The course aims to use student expertise to help organizations like not for profit organizations. Students get to choose what project they want so we got to select an area that was of interest to us.

#### ***Great, so what about your specific project. What are you working on? Why is this important?***

We're working to develop and improve [CSPTs glossary of terms](#). We're adding new terms and including images to help learners. We're also engaged with the [IUPHAR Pharmacology Education Project](#), trying to look at their areas of needs for the global pharmacology education project. We like this because its open source and available to everyone worldwide. To date we've authored 28 terms for the glossary which are currently being reviewed by CSPTs education committee.

#### ***Before taking on this project, what was your baseline knowledge in pharmacology? What pharmacology courses have you taken?***

Our experience in pharmacology differs quite a bit. Two of us had taken no pharmacology courses at all while two of us have taken multiple pharmacology courses at Western.



***For those that haven't taken pharmacology before, please describe the challenges of working on this project and how you've overcome them.***

We definitely have a much deeper understanding of what pharmacology is.....much more than just drugs! Working on this project has made us notice the overlap with some other areas of medical sciences, using this knowledge and making connections helps us better understand new terms we may have not encountered before.

***What is the greatest challenge you've faced working on this project?***

Finding the best reputable source and putting into original words that are still digestible for all that may read it.

***What do you think is the most important skill you've learned while working on this project?***

Finding sources of information, and efficiently finding the best and most relevant information in those sources. We've become much stronger in critically appraising information and sources of information. Another important skill we've learned is communication of complex information more clearly, this experience has enhanced our scientific communication.

***What do you think CSPT could do to better promote its educational initiatives such as the glossary and webinar series to undergraduate students?***

Mentioning it as a resource in introductory courses would be a great place to start. Pointing out that students have helped create these resources with their learning in mind.

***How do you think your experience in this community engaged learning class has helped prepare you for the next step in your educational or career plan?***

This course has helped us look at the big picture and what major issues of human health are. This course has certainly broadened our perspective and allowed us to work on soft skills rather than hard skills.

***Anything else you want to tell the Canadian Pharmacology community?***

I would tell the next cohort that CSPT is amazing to work with as a partner. Even without a background in pharmacology, working with CSPT has been easy to adapt to and very rewarding. The deliverables really allowed us to use everyday skills, such as comprehending scientific information, and apply them to create accessible and reputable pharmacology resources.

The terms created by the student team as part of this course are currently being reviewed by members of CSPT's education committee. Look out for our updated expanded and improved glossary to be published on our [website](#) in the spring of 2024.



# The CSPT Thanks Dr. Antonios Diab

By Kerry Goralski

The COVID-19 pandemic brought certain challenges to the CSPT, most notably the cancellation of our 2020 and 2021 in person annual meetings and the shift to virtual programming. The pandemic also provided the CSPT an opportunity to explore new ways of operating. Taking advantage of a 3:1 matching funding offer, **the CSPT recruited Dr. Diab as a Mitacs Accelerate Postdoctoral Fellow in partnership with Dalhousie University.** Dr. Diab's research project focused on Drug Safety and Effectiveness in Canadians During Viral Pandemics. This was a literature and knowledge translation-based project aimed at filling an unmet research need for the CSPT during the COVID-19 pandemic. Early in the COVID-19 pandemic the information regarding pharmacological interventions including small molecule and biological therapies and vaccines was changing rapidly and there was much uncertainty. Dr. Diab worked very diligently to **critically assess a very large body of COVID-19 clinical trials data as it developed and timely synthesized this information into resources for CSPT members, the broader scientific community, and the public.**

In addition to his COVID-19 research project, Dr. Diab was instrumental in providing administrative support for the society. In this capacity, **Dr. Diab worked directly with CSPT leadership including senior academics and clinical pharmacologists from across Canada,** where he was exposed to diverse experiences, perspectives, communication styles, and leadership styles. Through this experience Dr. Diab has developed his own leadership style and skills including creating networks, running meetings, planning projects, completing projects on time, moderating sessions, facilitating discourse, keeping working groups/committees engaged, creating a welcoming, respectful, and open environment, and building consensus when there were differing opinions. The CSPT Board of Directors fully appreciates that Dr. Diab worked independently, was fully engaged in his work, organized, and led many additional projects and tasks to successful completion. Furthermore, as a trainee, Dr. Diab brought an important perspective to our discussions at monthly Board meetings. He was always very collegial and a pleasure to work with.

On behalf of the Board of Directors, I would like to thank Dr. Diab for his exemplary contributions and service to the CSPT over the past 3+ years. His passion for Pharmacology and the CSPT was unwavering. **His efforts have enhanced the scientific and education offerings available to CSPT members and have improved and strengthened the CSPT.** We wish him all the best as he moves into the next stage of his career as a Health Services Lead with Nova Scotia Health. We look forward to his continued participation in CSPT activities and governance for many years to come.

Sincerely,

Kerry Goralski, Ph.D. on behalf of the CSPT Board of Directors

# Highlights of Dr. Diab's meaningful contributions

Developing and publishing a web-based COVID-19 pharmacology [information portal](#) on the CSPT website early in the pandemic.

Publishing a [review article](#), **COVID-19 pathophysiology and pharmacology: What do we know and how did Canadians respond?** A review of Health Canada authorized clinical vaccine and drug trials. Canadian Journal of Physiology and Pharmacology, 2021.

Co-organizing and facilitating the CSPT members webinar series including moderating a webinar with Health Canada on Drug Repurposing and moderating a webinar on EDI in pharmacology and therapeutics research and education.

Organizing and moderating a COVID-19 symposium at the CSPT 2021 Annual Virtual Meeting, a Pharmacology Education Symposium, and moderating sessions and abstract reviews for the 2023 Annual meeting.

Publishing the [Canadian Glossary of Pharmacology](#) which was highlighted in [Pharmacology Matters](#), the British Pharmacology Societies digital magazine.

Working with student groups on pharmacology awareness initiatives (at MUN, Queens, Waterloo, Manitoba) and starting a partnership with Western's Community Engaged Learning Class.

Conducting a systematic review of all Health Canada Approved Clinical Trials for COVID-19 vaccines and drug therapies. Submitted to the Canadian Journal of Physiology and Pharmacology in Feb 2024.



# LEARNING

# AND

# Practice

## A little-known specialty with lots of opportunities: Exploring Calgary's Clinical Pharmacology and Toxicology (CPT) Training Program

An interview with Mark Yarema and Eric McGillis  
By Jill Rourke and Megan Campbell



Mark Yarema, MD FRCPC  
Medical Director, Poison and Drug Information Service (PADIS)  
Section Chief, Clinical Pharmacology and Toxicology  
Alberta Health Services  
Clinical Professor, Department of Emergency Medicine  
University of Calgary & University of Alberta



Eric McGillis, MD  
Program Director, Clinical Pharmacology and Toxicology  
and Emergency Physician,  
Alberta Health Services  
Clinical Lecturer, Department of Emergency Medicine  
University of Calgary & University of Alberta

### What is the Clinical Pharmacology and Toxicology (CPT) Program?

The Clinical Pharmacology and Toxicology (CPT) Program is a two-year subspecialty residency program offered by the Department of Emergency Medicine as a partnership between Alberta Health Services and the Cumming School of Medicine at the University of Calgary. The speciality program in Canada, the program offers the opportunity to gain educational, clinical, and research expertise.

The program is based within the Poison and Drug Information Service (PADIS), one of Canada's five poison centres. This allows for an experiential learning experience from patient assessment to diagnosis through to management of poison-related conditions. The program also leverages its Emergency Medicine roots through its focus on acute and intensive care toxicology to create a well-rounded and unique opportunity for specialization.

Visit them [here](#) to learn more!



# LEARNING

AND

# Practice

How did the program get its start?

Dr. Grant Innes, envisions a standalone Department of Emergency Medicine at the University of Calgary that contains a Clinical Pharmacology and Toxicology (CPT) Division. **2009**

**JULY 2015** Dr. Scott Lucyk, who had recently completed a Toxicology Fellowship in the United States, arrives back in Alberta and becomes CPT's first Program Director.

The Calgary Zone Medical Executive Leadership of Alberta Health Services gives formal approval of the AHS Section of CPT. Following its unanimous approval, the Section was born! **APRIL 2016**

**MARCH 2017** The Royal College of Physicians and Surgeons of Canada approves the application for a CPT residency program at the University of Calgary, allowing the program to become part of the CaRMS matching process. The program becomes the 4th CPT program in the country, and 1st in Western Canada.

The first fellow was accepted into the CPT program. **2018**

**TODAY** Two fellows have graduated from the CPT fellowship program (2021 and 2022) and two trainees in the program are currently set to graduate in June 2024, with two more to follow in June 2025.

# LEARNING

AND

# Practice

## How can students get involved?

The CPT Program is an excellent opportunity for medical residents who are interested in increasing the breadth and scope of the clinical knowledge. However, students can begin their journey in CPT training at the undergraduate level by taking pharmacology and toxicology related courses to develop a foundational knowledge of key topics. There are also clinical pharmacology and toxicology research opportunities at many academic institutions which could support a career in this field .

## What are the advantages of CPT training?

CPT training offers many advantages for those who wish to pursue a career in related fields. With only four CPT subspecialty programs in Canada, this training facilitates the opportunity to become an expert in an interesting field of medicine. Through their affiliation with PADIS, residents within Alberta Health Services CPT program can serve and support two provinces (Alberta and Saskatchewan) and one territory (Northwest Territories) while working with a variety of healthcare professionals. According to Dr. Mark Yarema, Section Chief for Clinical Pharmacology and Toxicology and the Medical Director of PADIS, and current Program Director Dr. Eric McGillis, these training opportunities provide work that is both incredibly rewarding and fulfilling.

Dr. Yarema also maintains that "Clinical Pharmacology and Toxicology can not only add to your career but can also extend your career." Fatigue and burnout are common in the medical practice, but especially in emergency medicine. CPT training creates opportunities for physicians to teach residents and fellows, to take calls for the poison centre, and to expand their scope of practice. "Having more than one role within medicine can allow for physicians to find enjoyment in their practice as opposed to doing the same thing all the time."

## What is your vision for growth in the program in the coming years?

Dr. Yarema's long-term vision for the CPT in Canada is to have physicians be able to practice CPT full time like any other medicine subspecialty. Accomplishing this vision will involve recruiting more residents to train in CPT, changes to physician remuneration to make it feasible to practice CPT, and plenty of time. Dr. McGillis hopes to recruit residents from multiple specialties, including internal medicine, pediatrics, psychiatry, and anesthesia, with the goal of enhancing diversity of thought, perspectives, and backgrounds. Additional goals include training individuals who will carry the skills they gain to other centres, thereby establishing Calgary as a place where people can receive an excellent education in CPT that they can then take anywhere they choose.

# PUBLICATIONS

## CJPP Editor's Choice – August to December

**August:** <http://dx.doi.org/10.1139/cjpp-2023-0014>

**Sex- and enantiospecific differences in the formation rate of hydroxyeicosatetraenoic acids in rat organs**

**September:** <http://dx.doi.org/10.1139/cjpp-2023-0087>

**High salt-induced morphological and glycocalyx remodeling of human vascular smooth muscle cells is reversible but induces a high sodium salt-like sensitive memory**

**October:** <https://doi.org/10.1139/cjpp-2023-0098>

**Molecular hydrogen: prospective treatment strategy of kidney damage after cardiac surgery**

**November:** <http://dx.doi.org/10.1139/cjpp-2022-0528>

**Neonatal administration of fenofibrate had no developmental programming effect on the lipid profile and relative leucocyte telomere lengths of adolescent rats fed a high-fructose diet postnatally**

**December:** <http://dx.doi.org/10.1139/cjpp-2023-0153>

**Thyroid hormone induces restrictive cardiomyopathy in  $\beta$ 1-adrenoceptor knockout mice**