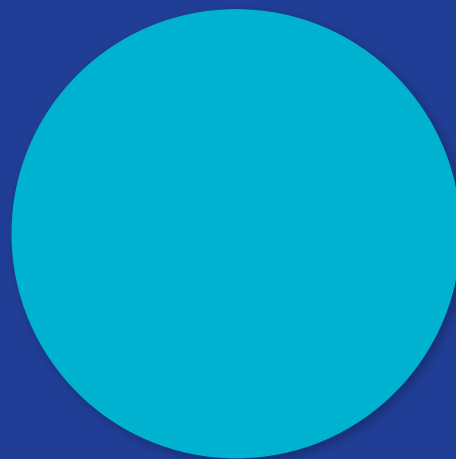
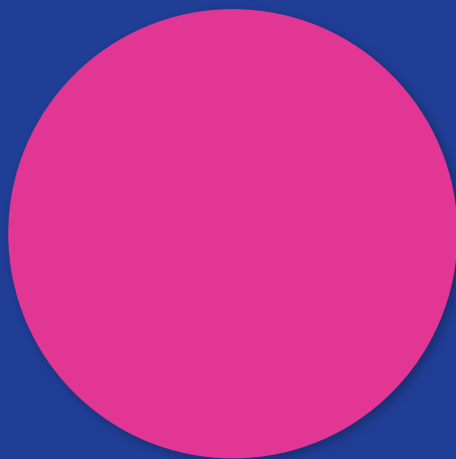


School of Pharmacy

Annual Report

2022–2023



Inspired Learning, Dynamic Research, Community Engagement & Enabling Success



PHARMACY

Land Acknowledgement

We acknowledge that the lands on which Memorial University's campuses are situated are in the traditional territories of diverse Indigenous groups, and we acknowledge with respect the diverse histories and cultures of the Beothuk, Mi'kmaq, Innu, and Inuit of this province.

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Our Vision, Mission & Values

Vision

To be the leader in pharmacy education, practice, and research to strengthen the healthcare system and improve the health and well-being of the people of Newfoundland and Labrador.

Mission

Empowering the future of pharmacy through a commitment to exceptional education, innovative practice, and groundbreaking research in collaboration with our wider communities.

Cultivating visionary graduates, equipping them to lead, innovate, and engage effectively as inter-professional collaborators.

Values

Excellence

We encourage excellence through innovation and creativity, critical thinking, and problem-solving.

Integrity

We are honest and ethical in all our interactions, maintaining the highest ethical and moral standards in teaching and learning, practice, research, and community engagement.



Above: Students from the Class of 2027 reciting their Pledge of Professionalism at our annual [White Coat Ceremony](#), which took place on Thursday, January 19, 2023.

Collaboration

We engage in respectful, cohesive collaborations that promote success in education, research, practice, and community engagement.

Leadership

We exemplify leadership in education, practice, and research, engaging with others to create and share knowledge and skills.

Inclusion & Equity

We strive to be a place where all people are accepted.

Care & Well-being

We support each other, helping us all to thrive.

Achievement

We acknowledge that dedicated commitment is required to achieve our common goals and objectives.

Service

We are committed to providing excellent service to students, the healthcare system, patients, and pharmacists.

Sustainability

We act in an environmentally, economically, and socially sustainable manner in administration, academic, practice, and research programs.

Message from the Dean



Dr. Shawn Bugden

The 2022–2023 year was memorable and productive for the School of Pharmacy at Memorial. After much consultation and discussion, we launched the 2023–2027 Strategic Plan for the school, entitled *Prescribing Excellence: A Strategic Blueprint for Advancing Pharmacy Education, Practice & Research*. In it, we set a plan for the next five years to keep up with a rapidly changing profession. Pharmacy practice post-COVID looks quite different, and it continues to evolve to respond to the population’s changing primary care needs. The School of Pharmacy seeks to ensure our students are likewise trained to respond to these emerging needs.

We were pleased to have our fall awards ceremony in person for the first time in several years. Dr Alicia Wall won the highly deserved Alumni Achievement Award, and with the health authority amalgamation, is now leading hospital pharmacy across the province.

In January we welcomed the Class of 2027 to the profession of pharmacy at our White Coat Ceremony. It was also my distinct pleasure to have Margot Priddle receive the Honorary White Coat. Margot has done so much in her 40-year career in pharmacy, from the development of the NL Pharmacy Network to her work as Registrar of the Newfoundland and Labrador Pharmacy Board. We—both the school and the

profession—were delighted to be able to honour her for her contributions.

Graduate student Olivia Perry continues to shine as the winner of the Atlantic Indigenous Mentorship Network Graduate Scholarship.

Dr Kwadwo Osei Bonsu also won the 2023 Thrombosis Canada-CanVector Fellowship (\$50,000) as part of the important work done by the Thrombosis Clinic, led by Dr. Stephanie Young and others.

On the research front, there were many notable achievements. Drs. Bishop and Donnan presented their cannabis work in Vienna, Austria and continue to have considerable impact at home with their successful Cannabis Health Evaluation and Research Partnership (CHERP) Evidence-to-Policy Symposium and their educational harm reduction efforts for NL students.

Dr. Daneshtalab was awarded a 2023 Canadian Society for Pharmaceutical Sciences (CSPS) Fellow Award and together with CSPS has been developing partnership with Japanese researchers. We were also pleased to host Dr Michael Doschak as a visiting professor this year and his work with a micro-CT scanner across a broad range of disciplines will likely pay dividends for many years to come.

Dr. Phillips, our smoking cessation champion, led work with Drs. Nguyen and Genge that won the poster award at an Ottawa conference on the topic.

Dr. Kelly launched the APPROACH (Adaptation of Point-of-care testing for Pharmacies to Reduce risk and Optimize Access to Care in HIV, hepatitis C, and syphilis) study on World AIDS Day. This research seeks to enhance access to testing and connect people to care. Creative and provocative advertisements were designed using peach and eggplant images to encourage people to get convenient point-of-care testing at their local community pharmacy.

Dr. Lee led a blood pressure measurement initiative at community pharmacies across the province for World Hypertension Day, and we look to further involve community pharmacy in this important public health issue. And these are just the highlights!

Our profession is on a bit of a roll, and there is wave of change coming to pharmacy practice. The School of Pharmacy looks forward to taking a leadership role as we all learn to surf this wave of change. ●●●●

Inspired Learning



Scholarships & Awards Ceremony 2022

Every fall, the School of Pharmacy’s Scholarships & Awards Ceremony celebrates our students’ achievements, hard work and determination, as well as the generosity of our preceptors. This year was special because we were able to have an in-person ceremony that was better attended than the year before, due to the loosening of COVID-19 restrictions. People were still invited to wear masks if it made them feel safer, while asking everyone to respect each other’s choices and space. We still offered a live-streamed event for those who were more comfortable attending virtually. Here is a selection of highlights from our 2022 ceremony. For more photos of the event, please visit our [Facebook](#) page.



Dean Bugden giving his opening remarks.



Top left: Dr. Alicia Wall was our Alumni Achievement Award winner. **Top middle & right:** Kyle Larade and Asha Kennedy made the Dean’s List. **Bottom left:** Keisha Roche was the recipient of the Terence Conway & Clyde Mitchelmore Award for Patient Care. **Bottom middle:** Noah Harris received the Alpha Group Memorial Award in Community Pharmacy. **Bottom right:** The reception (sponsored by Loblaw Pharmacy).

Dynamic Research



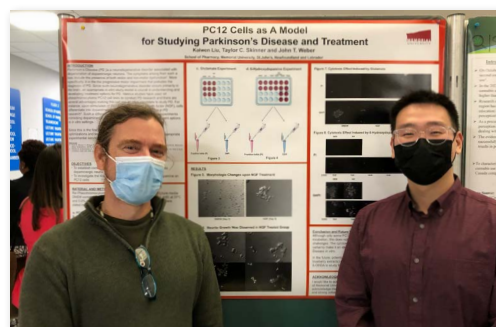
PHARMACY RESEARCH DAY
Friday, November 25, 2022

8:30–11:30am
Undergraduate & Graduate Students' Poster Presentations
 Medical School foyer, Health Sciences Centre (top of stairs, near main cafeteria). Posters will be available for viewing until 4:00pm.

1:00–2:00pm
Keynote Speaker: Dr. Michael Doschak
Synthesis of Bone-Seeking Peptide Hormone Analogues and In-Vivo Pharmacodynamic Evaluation Using Micro-Computed Tomography
 Lecture Theatre E, Room 2956, Health Sciences Centre

Pharmacy Research Day

Our annual [Pharmacy Research Day](#) was held on Friday, November 25, 2022. The [undergraduate and graduate poster presentations](#) were from 8:30–11:30am. Dr. Michael Doschak, visiting professor from the University of Alberta, was our keynote speaker from 1:00–2:00pm (see presentation information and bio below).



Above: Pharmacy Research Day poster. Below: Keynote Speaker info.

Above: Dr. John Weber and Kaiwen Liu.

Memorial University • School of Pharmacy • 2022 Research Day Keynote Address

Synthesis of bone-seeking peptide hormone analogues and in-vivo pharmacodynamic evaluation using micro-computed tomography by **Dr. Michael Doschak**

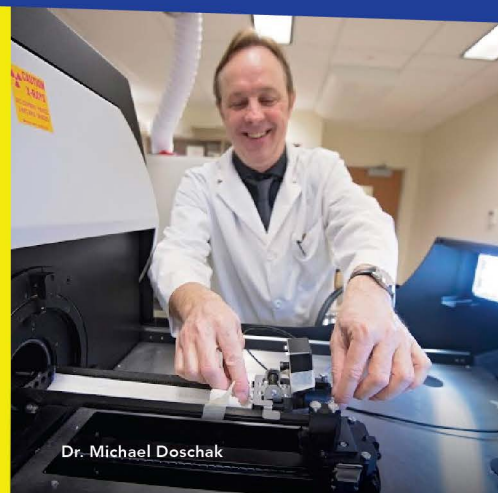
Friday, November 25, 2022 • 1–2pm • Lecture Theatre E, Room 2956, Health Sciences Centre



PHARMACY

Computed Axial Tomography (CAT or CT) scan is widely used in diagnosing pathological states of human organs. In addition, micro-CT, a miniature version of clinical CT, has been proven to be a powerful tool in drug development, especially in drug biodistribution and PK/PD studies. Dr. Michael Doschak is a tenured full professor with the Faculty of Pharmacy & Pharmaceutical Sciences at the University of Alberta in Edmonton. His research program is centered on the impact of drugs on the mineralized tissues of the body. To that end, in 2007 he established and continues to manage the U of A Pharmacy micro-CT Imaging facility, to facilitate the pharmacodynamic modeling of labeled drugs and tissue specific dose-response outcomes.

In addition, during the nine months of his sabbatical research residence here (October 2022 – June 2023), Dr. Doschak set up the first micro-CT imaging lab at Memorial University.



Community Engagement

Dr. Debbie Kelly Launched the APPROACH Study on World AIDS Day

On December 1, 2022—World AIDS Day—Dr. Debbie Kelly and her research team [launched recruitment for the APPROACH Study](#). Over the next year, participants can access confidential screen testing for HIV, hepatitis C, and syphilis through participating pharmacies in Newfoundland and Labrador, Nova Scotia and Alberta. In turn, the research team of academics, clinicians, community leaders, and peer research partners will learn about how pharmacy-based testing can help find new sexually transmitted and blood-borne infections (STBBI) diagnoses, link them with care and treatment, and identify ways to create an effective, scalable and sustainable testing program. For more information, please visit [The APPROACH Study](#).



Gerard Yetman, executive director, AIDS Committee of NL, and Dr. Debbie Kelly, professor, School of Pharmacy, at the launch.

approach

get tested

HIV, Hepatitis C & Syphilis Tests

At participating pharmacies.
Private. Judgment-free.

Testing is offered as part of the APPROACH research study. To be eligible, you must be 18 years or older, have a valid health card number, and be able to understand English. If you have questions regarding your rights as a research participant, contact the Health Research Ethics Authority at (709) 777-6974 or info@hrea.ca.

www.approachstudy.ca

approach

get tested

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www.approachstudy.ca

Enabling Success

White Coat Ceremony, Class of 2027 & Honorary White Coat

On Thursday, January 19, 2023, the Class of 2027 was inducted into the pharmacy profession at our White Coat Ceremony.



"Our health care is in a constant state of change, and I think pharmacists are very well positioned to be in the forefront of that change."

—Margot Priddle



The School of Pharmacy invites you to our annual
WHITE COAT CEREMONY
to induct the **Class of 2027** into the Profession of Pharmacy

Thursday, January 19, 2023 • 5:00pm
Health Sciences Centre, Main Auditorium
Reception to follow • sponsored by Sobey's

MEMORIAL UNIVERSITY
PHARMACY

Top: First-year students recite their Pledge of Professionalism. Above: The Class of 2027 in their white coats. Above left: Don Rowe assisting Margot Priddle in donning her Honorary White Coat.

The Honorary White Coat recipient was Margot Priddle, a 40-year veteran in the pharmacy profession. She was a community pharmacist, a hospital pharmacist, a consultant, and a manager. She worked in geriatric care, she led the development of the NL Pharmacy Network, she served as a member of the Board of Directors for the NLPB, and eventually became the Registrar.

Dynamic Research

15th Annual Ottawa Conference: State-of-the-Art Clinical Approaches to Smoking Cessation

National and international smoking cessation experts converged in the Canadian capital from January 19–21, 2023 to participate in the [15th Annual Ottawa Conference: State-of-the-Art Clinical Approaches to Smoking Cessation](#). This is Canada's premier event promoting the latest ideas and evidence in clinical tobacco treatment, program development and smoking cessation research.



Dr. Leslie Phillips received the Poster Presentation award, “in recognition of having met the highest standards of excellence” for her poster, titled: “Pharmacist-led smoking cessation programs are effective and cost-effective.” The poster was co-authored by Drs. Hai Nguyen, Terri Genge, and Joy Maddigan.

Pharmacist-led smoking cessation programs are effective and cost-effective

Leslie C. E. Phillips, BSc(Pharm), PharmD; Hai Nguyen, PhD; Terri L. Genge, BSc, BSc(Pharm), PharmD; W. Joy Maddigan, PhD, RN

Introduction

- Smoking cessation programs (SCPs) that are effective, cost-effective, and easily available are needed to help current smokers quit and help Canada reach its goal of 15%.
- Pharmacists are trained to deliver smoking cessation and treat can provide quit medications. They are trained to make cost-effective and are available during extended hours, often without appointment.
- This study compared the effectiveness rates between pharmacist-led SCPs and the cost-effectiveness between these and a comparator group.

Methods

- This was a Prospective, Mixed Methods, Randomized Trial.
- The study was conducted at Memorial University School of Pharmacy's Medication Therapy Services Clinic in St. John's, NL. The pharmacist-led trial was patient for a variety of medication-related concerns and issues: a SCP. Cost-effective smoking and pharmacist-led were randomized into either the existing in-house SCP or a new pharmacist-led SCP that was designed for community pharmacy.

Results

Figure 1: Consent flow diagram
65 smokers were recruited into study

```

    graph TD
        A[Screened n=74] --> B[Consent not met n=9]
        A --> C[Consent met n=65]
        C --> D[Excluded n=9]
        C --> E[Randomized n=56]
        E --> F[Intensive SCP n=28]
        E --> G[Abstinence SCP n=28]
        F --> H[Lost to follow-up n=13]
        F --> I[Completed n=15]
        G --> J[Lost to follow-up n=12]
        G --> K[Completed n=16]
    
```

Figure 2: Seven-day point prevalence abstinence rates (%) at 3 & 6/12 (n=65)

Time Period	Intensive SCP	Abstinence SCP
3 Days (3,12, p=0.418)	78.1%	76.5%
6 Days (6,12, p=0.193)	71.1%	76.4%

Figure 3: Seven-day point prevalence abstinence rates (%) at 3 & 6/12 (modified intention-to-treat)

Excluding those only staying for first Pre-Quit Visit and only staying for first two Pre-Quit Visits

Time Period	Intensive SCP	Abstinence SCP
3 Days (3,12, p=0.216)	79.2%	66.2%
6 Days (6,12, p=0.289)	71.1%	70%

Table 1: Demographics

Baseline Demographic	Intensive n=28	Abstinence n=28	P value
Age (years)	50.8	52.50	P=0.91
Male (%)	71.4	71.4	
Female (%)	28.6	28.6	
Time since quit (years)	17	10	P=0.07
Time since quit (months)	20.2	12.5	P=0.05
Time since quit (days)	153.0	122.0	
Time since quit (weeks)	22.0	17.5	P=0.29
Time since quit (months)	5.3	4.1	
Time since quit (years)	0.45	0.34	
Time since quit (days)	15.3	12.2	
Time since quit (weeks)	2.2	1.6	
Time since quit (months)	0.53	0.34	
Time since quit (years)	0.045	0.034	
Time since quit (days)	15.3	12.2	
Time since quit (weeks)	2.2	1.6	
Time since quit (months)	0.53	0.34	
Time since quit (years)	0.045	0.034	

Table 2: Intervention costs (per person) during six-month period

Intervention Cost (\$)	Intensive Program (n)	Abstinence Program (n)	Comparator (n)
Intervention cost (\$)	110	70	70
Pharmacy medication cost (\$)	245	245	102
Pharmacy medication cost (\$)	455	315	102

Table 3: Cost-effective analysis

Program	Total Intentional Cost (\$)	Total Intentional Cost (\$)	Total Intentional Cost (\$)	Total Intentional Cost (\$)	Total Intentional Cost (\$)	Total Intentional Cost (\$)
Intensive Program	565	565	565	565	565	565
Abstinence Program	315	315	315	315	315	315
Comparator	102	102	102	102	102	102

Results

Figure 1: Consent flow diagram
65 smokers were recruited into study

Figure 2: Seven-day point prevalence abstinence rates (%) at 3 & 6/12 (n=65)

Figure 3: Seven-day point prevalence abstinence rates (%) at 3 & 6/12 (modified intention-to-treat)

Excluding those only staying for first Pre-Quit Visit and only staying for first two Pre-Quit Visits

Discussion/conclusion

The main strength of this study was to assess the effectiveness and cost-effectiveness. These combined factors allow clinicians and patients to make informed decisions about resource allocation.

The primary limitation of this study was the small sample size.

The small sample size likely had a type I statistical error, underpowering the study's ability to detect significant differences between the Intensive and Abstinence SCPs.

Abstinence rates were determined via self-report and were verified by biochemical analysis. Neither method is ideal or covering long-term abstinence. Short-term self-report measures their self-reported success, but they may also temporarily abstain in order to do well on biochemical validation. Self-report was chosen for this study as it was the least expensive, least invasive, and most pragmatic approach for pharmacy settings.

The large study requires one which covers a wide range of rates of 30-50% reported in other studies highlight the need for enhanced efforts only by clinicians to enhance and encourage smoking to remain committed.

Community pharmacists are an accessible, underutilized and cost-effective resource to deliver smoking cessation programs.

Acknowledgements

Funding: NL Support Clinician/ Allied Health Professional and Patient Outreach Research Centre, and the Government of Newfoundland & Labrador Department of Health & Community Services, Children, Seniors and Social Development.

Special thanks to Gerald White, PhD, Scott Madsen, PhD, Catherine Baker, BScPharm, PharmD, Anna Brown, BScPharm, MSc, Angela Turner, BScPharm, MScPharm, Katherine Davis, BA, BSc (Hons).

Author contact: Dr. L. Phillips | lphillips@mun.ca

Top: The 15th Annual Ottawa Conference was held at the Shaw Centre. Above: Dr. Leslie Phillips' winning research poster Above left: Dr. Phillips and her award.

Community Engagement

Pharmacy Appreciation Month (PAM)

The School of Pharmacy’s students organized another successful month of events to honour and highlight the important role pharmacies and pharmacists play in our communities and hospitals. The role of pharmacists continues to evolve, as does their scope of practice. As many Canadians are dealing with health issues while not having a family doctor, pharmacists have become even more critical. The annual Pharmacy Appreciation Month helps to spread awareness about the profession.

2023 03



March

sun	mon	tue	wed	thu	fri	sat
	The calendar is still subject to change		01 PAM Kick-off Event	02 Halcon L&L Government House Lighting	03 Pharmacy Merch Day	04
05 Sunday Scripts released	06 CSHP Symposium Mock-OSCEs released	07 Dr. Coombs Takeover	08 International Women's Day Post	09 Pharmachoice I&L Pneumonia Webinar	10 Twin Day	11 M. Next Top Pharmacist
12 Sunday Scripts released	13 Embecka L&L ACODA Trivia Night Mock-OSCEs released	14 Health Promotion Fair Hypertension Clinic Christine Takeover	15 Lip Gloss Compounding w/ Sparkles	16 Faculty Appreciation Day National Meet & Greet	17 Green Day	18
19 Sunday Scripts released	20 IPSF SWAP L&L Mock-OSCEs released	21 Dr. Balsom (MTS) Takeover	22 Movie Night	23 Immunize.io L&L	24	25 IPSF Blood Drive Apotex Pill Drop Formal (Share your Outfit!)
26 Sunday Scripts released	27 SoP Outreach Mock-OSCEs released	28 Dr. Burden Takeover	29 Evidence Based Medicine competition	30	31 Dress as Your Favourite Drug	

Right: Calendar of 2023 PAM events.

Enabling Success

Dr. Noriko Daneshtalab Won a 2023 CSPA Fellow Award

Announced in late March, 2023, Dr. Noriko Daneshtalab won this prestigious award and it was presented to her on May 25, at the 2023 CSPA/CC-CRS Symposium in Toronto. Dr. Daneshtalab’s congratulatory letter from the Canadian Society for Pharmaceutical Sciences described their ideal candidate as: “Any member who is deemed to have made a meritorious contribution to the advancement of science may be elected a Fellow of the Society by the Board of Directors and is privileged to use the letters “F.C.S.P.S.” after his/her name.”



Enabling Success

Connections With Japan



In March 2023, the Japanese ambassador, Kanji Yamanouchi, visited MUN. Dr. Noriko Daneshtalab and Dr. Michael Doschak, visiting professor for the 2022–2023 academic year from the University of Alberta, were in attendance for Mr. Yamanouchi’s visit.

Following this visit, Drs. Daneshtalab and Doschak travelled to the 143rd Annual Meeting of the Pharmaceutical Society of Japan which was held March 25–28, 2023, at Hokkaido University in Sapporo, Hokkaido, Japan. The theme of the meeting was “[PharmaScience: Integration for Breakthroughs](#).” Five other Canadian Society for Pharmaceutical Sciences (CSPS) members also travelled to this international symposium.

[From an article](#) by CSPS member and PhD candidate in Biomedical Sciences at Memorial, Kayla Kitselman:

“The self-development I experienced when travelling to a different culture that speaks a language unfamiliar to me will follow me throughout my life. I commend PSJ for putting together a captivating, highly attended, and exceptionally organized meeting.”

—Kayla Kitselman

The School of Pharmacy hopes that these connections may form the basis of future research partnerships.



Top: Kanji Yamanouchi and Dr. Noriko Daneshtalab. Above, From left to right: Prof. Michael Doschak (UofA), Seyed (Amir) Dakhili (UofA), Prof. Tomoya Uehara (Chiba University), Kayla Kitselman (MUN), Prof. Yoshinobu Takakura (Kyoto University), Adibeh Ghazanfari (UofA), Conor O’Croinin (UofA), Prof. Noriko Daneshtalab (MUN), and Ruikun Tang (UofA).

Community Engagement

CHERP's Evidence-to-Policy Symposium

The [Cannabis Health Evaluation & Research Partnership](#) (CHERP) hosted a [symposium](#) at MUN's Signal Hill campus to discuss their research findings regarding the legalization of cannabis and how it's affected Newfoundland and Labrador, as well as to engage with the public and stakeholder groups to discuss cannabis policy implications. Read the Gazette article [here](#).



Topics will include:

- Cannabis Retail Model
- Places of Consumption
- Medical Cannabis
- Youth Cannabis Education
- Public Awareness

CHERP
CANNABIS HEALTH EVALUATION & RESEARCH PARTNERSHIP

Memorial University, St. John's Campus

March 22, 2023
9am-4pm

EVIDENCE-TO-POLICY SYMPOSIUM

Coming together to foster safe cannabis use

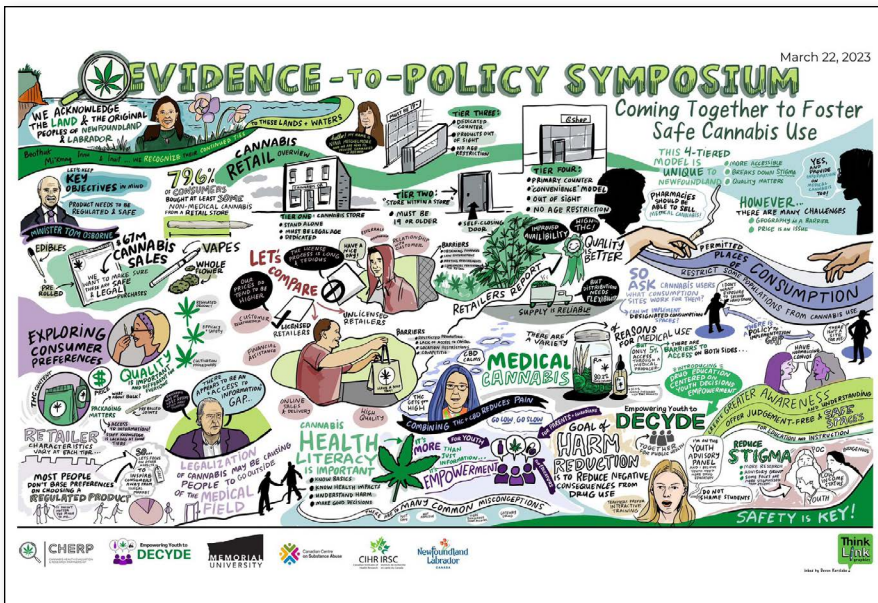
A day of discussion about how cannabis has impacted Newfoundland and Labrador since its legalization.

Submit an expression of interest:
<https://forms.gle/meiWmkgJG7iQB9hr7>

Limited capacity!

Join us in person or virtually

MEMORIAL UNIVERSITY



The CHERP team of researchers, students, research assistants and staff. CHERP's principal investigators are Dr. Lisa Bishop, Dr. Jennifer Donnan and Dr. Maisam Najafizada (Medicine).

By Devon from @ThinkLink. Above: Minister Osborne's opening remarks.

Community Engagement

DECYDE Launch at CHERP's Evidence-to-Policy Symposium

The CHERP team [launched a youth drug education program](#) called Drug Education Centred on Youth Decision Empowerment or [DECYDE](#) at their symposium on March 22, 2023. The funding is being provided through [Health Canada's Substance Use and Addictions Program](#) (SUAP).

Our mission: To provide evidence-based, trauma-informed, substance-use education and resources with a focus on prevention and harm reduction for youth, educators, and guardians.

DECYDE’s goal is to “empower youth to make safe and informed choices, support educators in delivering drug education, and provide parents/guardians with information that can guide their conversations with youth.”

DECYDE is still in its early stages. The team hosts events and workshops, has a teacher portal on their website that includes sections like, Harm Reduction, Neurodiversity, Stigma and Trauma-Informed Practices. Currently, there are lesson plans for grades four to nine. Some of the drug classifications DECYDE talks about are cannabinoids, depressants, hallucinogens and stimulants.



Dynamic Research



MAY MEASURE MONTH 2023 & World Hypertension Day (May 17)

Over 10 million lives are lost each year due to high blood pressure. You can help to squeeze those numbers by taking part in a global research project. For a list of participating pharmacies, please contact tiffany.lee@mun.ca or visit www.leelab.ca/mmm23



If you have any questions about your rights as a research participant, please contact the Health Research Ethics Authority at 709-864-8871 or info@hrea.ca



Facebook: [MayMeasure](https://www.facebook.com/MayMeasure) | Twitter: [MayMeasureOrg](https://twitter.com/MayMeasureOrg)
Instagram: [maymeasureorg](https://www.instagram.com/maymeasureorg) | #TheBigSqueeze

May Measure Month 2023



Raised blood pressure is the number one cause of preventable death worldwide. [May Measure Month](#) helps to create awareness by encouraging people to get their blood pressure checked every May, which coincides with [World Hypertension Day](#) on May 17. Again this year, Dr. Tiffany Lee led her research project to get people into participating pharmacies to have their blood pressure measured.



Over 10 million lives are lost each year due to high blood pressure



You can help to **SQUEEZE THOSE NUMBERS** by taking part in a global research project

On May 17 have your blood measured by a pharmacist

For more information about this project and for a list of participating pharmacies contact tiffany.lee@mun.ca or visit: www.leelab.ca/mmm23

If you have questions about your rights as a research participant, please contact the Health Research Ethics Authority at 709-864-8871 or info@hrea.ca



Facebook: www.facebook.com/MayMeasure | Twitter: [@MayMeasureOrg](https://twitter.com/MayMeasureOrg) | Instagram: [maymeasureorg](https://www.instagram.com/maymeasureorg) | #TheBigSqueeze

Enabling Success

PharmD Class of 2023 Graduation Dinner & Dance

On Saturday, June 3, 2023, the School of Pharmacy held their graduation dinner and dance. The students did an excellent job organizing the event at the Johnson Geo Centre. This was the second class to graduate from the school's PharmD program.

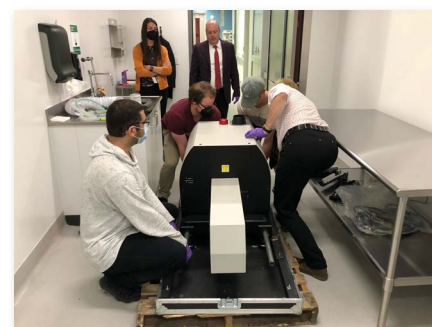


All images © Aimee Nicole Photography

Dynamic Research

Dr. Michael Doschak and the Micro-CT Scanner

Dr. Doschak came to the School of Pharmacy as a visiting professor from the University of Alberta for 10 months—September 2022 to June 2023—bringing with him his micro-CT scanner. It was the first time Memorial University had the opportunity to house this powerful imaging suite. The micro-CT is a high-resolution “in-vivo” imager that non-invasively quantifies [“bone and mineral adaptations after pharmaceutical, orthopaedic, orthodontic and biomedical interventions.”](#) The imager enables the user to measure efficacy of newly discovered bone drugs. Dr. Doschak was invited to the School of Pharmacy by Dr. Noriko Daneshtalab.



The micro-CT is an X-ray-based imaging modality that permits a non-invasive, 3D examination of living rodent tissues at very high resolution (9 μ orthotropic). The photos above are from its installation on August 24, 2022.

Bio: Dr. Michael R. Doschak, MSc, PhD

Dr. Michael Doschak is Professor and Assistant Dean International with the Faculty of Pharmacy & Pharmaceutical Sciences at the U of A. His initial degree was a Bachelor of Science (in Medical Technology) from Curtin University in Perth, Western Australia (1984), then an MSc (1998) and PhD (2004) in Medical Sciences, both with the Dept of Surgery, Faculty of Medicine at the University of Calgary, where his research centered on the mineral binding effects of the bisphosphonate drug family during the pathogenesis of Osteoarthritis. Following post-doctoral training in drug delivery in the lab of Dr.

Hasan Uludag at Chemical & Materials Engineering at the U of A, and an NSERC Industrial Fellowship with the Canadian biotech company Millenium Biologix in Mississauga Ontario, he was recruited to the University of Alberta by the Faculty of Pharmacy & Pharmaceutical Sciences in 2005, where he established the first in vivo Micro-Computed Tomography imaging lab in Edmonton, to temporally assess novel bone drug compounds on the mineralized tissues of small laboratory animals, at very high resolution. His research efforts have resulted in the synthesis and characterization of

several novel peptide hormone drug conjugates as the “next generation of bone drugs”—namely, bone-targeting biologic agents that strategically coat bones immediately after systemic administration. He has served with the international Controlled Release Society (CRS) as the Canadian Chapter President (2011–2013), as Chair of the International Committee (2014–2016), was elected to the CRS Board of Scientific Advisors for a 3 year term (2015–2018), and currently serves with the Canadian Society for the Pharmaceutical Sciences (CSPS) as a Board Member and Treasurer.

Dynamic Research

The Micro-CT Scanner's Cross-Campus Collaborations: From Pharmacy to Biology, Medicine & Psychology

During Dr. Doschak's time at Memorial, a significantly diverse group of individuals ranging from researchers from the departments of Biology, Engineering, Ocean Sciences, Biomedical Sciences, and, of course, Pharmacy availed of his knowledge of the equipment and were able to define many different parameters for their research. For example, the following researchers worked closely with Dr. Doschak:

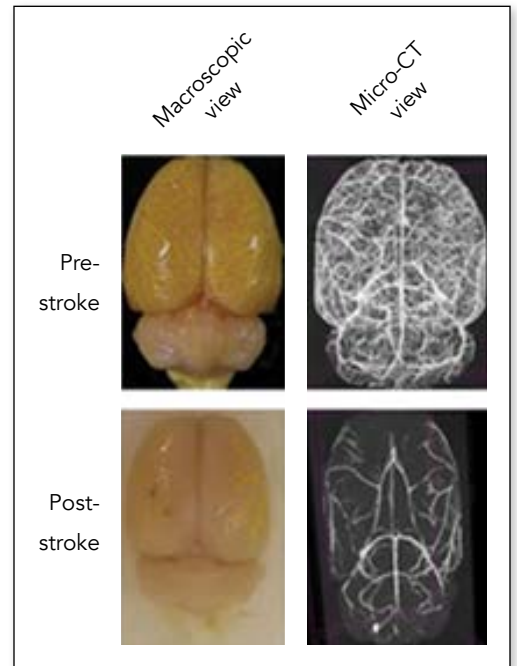


Dr. Noriko Daneshtalab (Pharmacy) utilized the Spontaneously Hypertensive Rat stroke-prone (SHRsp) model in which they exhibit hypertension and the incidence of spontaneous stroke is approximately 80%. To outline hemorrhagic stroke (HS)-induced changes to cerebrovascular branching and blood flow ex vivo they used the micro-CT process to define vascular remodelling that occurs in 3D after haemorrhagic stroke.

Dr. Janna Andronowski (Medicine) investigated the impact of opioid exposure on 2D microstructural parameters (e.g., osteon population density, cortical area) and 3D measures (e.g., intracortical porosity, bone's cellular network) in a novel pre-clinical rabbit model system. The use of the micro-CT helped define some of the 3D bone measurements.

Dr. Christopher Kovacs (Medicine) studied adaptations in bone and mineral metabolism that are invoked in the mother during pregnancy, lactation, and post-weaning; and also how fetal adaptations and maternal influences program fetal and neonatal mineral metabolism and skeletal development. Some aspects of the changes can only be detected through use of micro-CT, such as what is due to impaired microarchitecture, including thinner trabeculae and cortices.

Dr. Edward Miller (Biology) studied evolutionary morphology and social communication in birds and mammals while **Dr. Dave Wilson (Psychology & Biology)** investigated vertebrate signaling systems. Together, they were studying vocal-tract anatomy of birds in relation to song structure and phylogeny but have been limited to viewing histological sections. Use of



the loaned micro-CT revealed novel microstructural details that will be key for their future research.

Dr. Suzanne Dufour (Biology) studied beneficial symbioses between marine invertebrates and chemosynthetic bacteria. She used the loaned micro-CT to reconstruct the soft anatomy of chemosymbiotic molluscs, thereby revealing fine-scale differences in the morphology of gills and also how the digestive tracts vary between species and with nutritional dependence on symbiont-derived nutrition. These data will improve our understanding of the evolution of symbioses.

Enabling Success



School of Pharmacy's 14th Annual Golf Tournament

The 14th Annual School of Pharmacy Golf Tournament was an overwhelming success. It took place at GlenDenning Golf Course on Thursday, July 20, with an 8:00am shotgun start.

The tournament raised approximately \$25,000 in support of student initiatives and scholarships. We had a number of returning sponsors and golfers, as well as some newbies. And, again this year, we were grateful for some fine weather!

To the right are the logos of our major sponsors, but there were also many [other sponsors](#) who supported our event.



Dynamic Research



Undergraduate Student Summer Research Program (USSRP)

Did you know that 2023 was the eighth year of the [USSRP](#)? To date we have provided over 55 summer research opportunities for undergraduate students in Pharmacy and beyond. Below are the USSRP 2023 projects.

Wooje Choi, School of Pharmacy

Supervisor: Dr. Erin Davis

Review of the diversity in patient cases in the pharmacy curriculum in comparison to the population of NL

Molly Downey, Dept. of Psychology

Supervisors: Drs. L. Bishop & J. Donnan

Reducing Harms Through Youth Cannabis Education: A Survey of Educator Perspectives

wSylvia Farooq, School of Pharmacy

Supervisors: Drs. L. Bishop & J. Donnan

Addressing the taboo: Understanding why consumers purchase cannabis from illicit sources and how to incite motivation for change

Megan Heath, School of Pharmacy

Supervisors: Drs. L. Bishop & J. Donnan

Development of the FACE Decision-Making Model for Youth Health Education

Kaiwen Liu, School of Pharmacy

Supervisor: Dr. John Weber

PC 12 Cells as A Model for Studying Parkinson's Disease and Treatment

Isobel McMahon, Dept. of Psychology

Supervisors: Drs. L. Bishop & J. Donnan

Perceptions of Cannabis Consumption During Pregnancy and Lactation: A Patient-Informed Survey

Nitara Waghmare, School of Pharmacy

Supervisors: Drs. L. Bishop & J. Donnan

Directed Education on Cannabis for Youth Decision Empowerment (DECYDE): Using A Mixed Methods Approach to Inform the Development of a Substance Use Lesson Map for Grades 7-9

Kwadwo Osei Bonsu Won the 2023 Thrombosis Canada-CanVECTOR Fellowship



Kwadwo Osei Bonsu won the [2023 Thrombosis Canada-CanVECTOR Fellowship](#) in the Spring 2023 Research Training (Fellowships) Awards competition for his project, “Validation of Venous Thromboembolism Diagnosis and its Epidemiology in Newfoundland and Labrador: A Retrospective Cohort Study.” The award was valued at \$50,000 for one year. His supervisors are Dr. Stephanie Young, Dr. Rufaro Chitsike (Medicine), Dr. Tiffany Lee, and Dr. Hai Nguyen.

Dr. Kwadwo Bonsu is a pharmacist and a clinical epidemiologist with keen interest in thrombosis research. He is currently a post-doctoral fellow in thrombosis research at the School of Pharmacy at Memorial and the Eastern Health Adult Thrombosis Service. He developed a strong interest in thrombosis research after his doctorate in clinical epidemiology and embarked on a post-doctoral fellowship program in thrombosis. He has expertise in research methodology, including pharmacoepidemiology pertaining to analyses of large administrative databases.

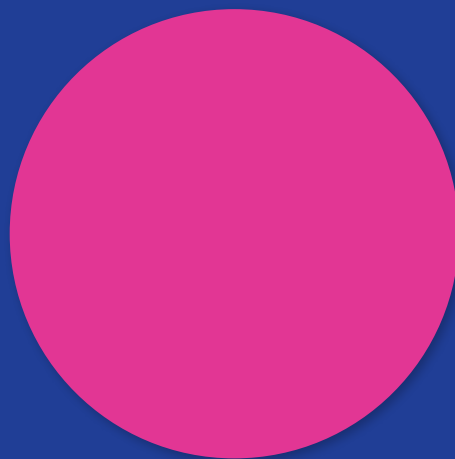
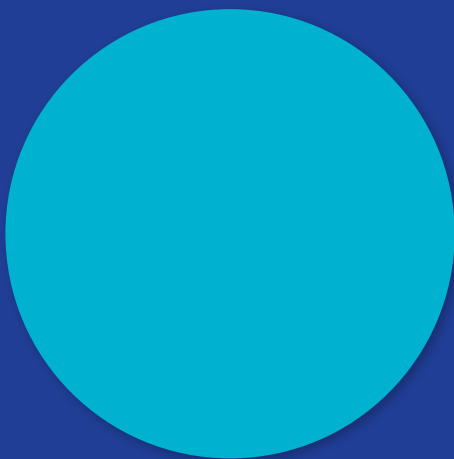
Memorial University of Newfoundland

School of Pharmacy

300 Prince Philip Drive
St. John's, NL, A1B 3V6
Phone: 709-864-6190

Medication Therapy Services Clinic

75 Tiffany Court, Unit #1
St. John's, NL, A1A 0L1
Phone: 709-864-2274



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