SMART Training Platform

PROGRESS REPORT
YEARS 1 - 3

WHAT IS THE

SMART Training Platform

The SMART Training Platform was the successful training platform grant submission to Canadian Institutes of Health Research (CIHR) Healthy Cities Research Initiative. In 2021, we were awarded $4.95 million over 6 years to develop the training platform and train up to 460 students in implementation science and healthy cities and communities.

The project is led by Dr. David Ma from University of Guelph, Dr. Lauretté Dube from McGill University and Dr. Miyoung Suh from University of Manitoba. Our team also includes 33 faculty from University of Waterloo, University of Toronto, University of Ottawa, Université de Montréal, University of Sherbrooke, Université Laval and Dawson College.

The SMART Training Platform was built upon three Canada Smart Cities Challenge projects from the City of Guelph, City of Montreal and The Pas and the Opaskwayak Cree Nation (OCN) in Manitoba. These initiatives all have a shared focus on health, food security and resilient food systems and combine to provide our trainees a rich ecosystem of experiential learning opportunities, research projects and access to community collaborators.

OUR FOUNDING INSTITUTIONS:

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A LETTER FROM OUR PRINCIPAL INVESTIGATORS:

The SMART Training Platform is the first of its kind program that uniquely brings together trainees across CIHR-NSERC-SSHRC disciplinary domains to gain new knowledge, skills and experiences in Healthy Cities and Implementation Science. We also offer added value perspectives in Smart Cities and Convergence by Design, the 'how to' part of enabling single and combined action by all actors throughout society. Big Data, Artificial Intelligence and new technologies and computational methods take central stage and are embedded into on-the-ground transformation in multiple layers of the individual, community, society and global complexity. Our funded proposal focused on Food as the entry point for Healthy Cities and Implementation, which has now expanded in scope to cover the full scope of human needs and aspirations to be supported by communities and cities where people live, work and play. Many of these domains are also covered by the six new CIHR-funded Healthy Cities Research Years (year 2) that have joined the network supported by the SMART training platform. In Year 3 we began a transition to expand eligibility for SMART stipend support that was originally limited to our network of 10 institutions to now encompass all Canadian institutions in support of building human capacity in implementation science. Overall, in three short years we have successfully achieved our initial goals of launching a trainee funding program, 3 courses (1 more than planned), summer school (1 more than planned), annual conference and provided experiential learning opportunities. The details of these efforts are described further in this cumulative 3-year report.

We are committed to the important work of building human capacity and wish to also highlight new opportunities and additional efforts that have been initiated. We have created a strong foundation for continued training success, and in years 4-6 we will endeavour to advance 3 new lines of activity to further enhance training opportunities and impact:

i) Leverage and create additional experimental and funding opportunities. Promising discussions with MITACS have been initiated to establish a dedicated matching funding umbrella for healthy cities and implementation projects.

ii) Foster international experiential and training opportunities. Discussions have been initiated with academic institutions in Netherlands, South Korea and Singapore.

iii) Create a legacy and permanent course offerings in healthy cities and implementation. The fundamentals of healthy cities and implementation is currently offered as a graduate course intitled, SMART Methods Café. With strong positive responses, discussions have been initiated to replicate this introductory course via continuing education programs and undergraduate course offerings at the University of Guelph, McGill University and University of Manitoba.

On behalf of the SMART Training Platform, thank you for the opportunity to help shape the future healthy cities and implementation in Canada.

Dr. David Ma
University of Guelph

Dr. Miyoung Suh
University of Mantioba

Dr. Laurette Dubé
McGill University

BY THE NUMBERS

The SMART Healthy Cities Training Platform will train the next generation of health, social sciences and humanities, engineering and natural science researchers, to find ways to make Canadian cities healthier, more livable, and more resilient!

124 funded trainees

11 letters of support

200+* conference attendees

16 publications

2 conferences and **2** summer schools hosted by SMART

3 courses developed

46 faculty investigators

A network of **300+**

30* summer school attendees

2 webinars with a total of **50+** attendees
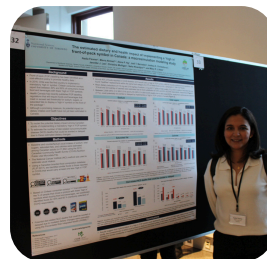
200+ social media followers

Trainees span across **20** different academic institutions

50+ conference presentations

50% of faculty investigators have engaged trainees in experiential learning opportunities

6 CIHR funded HCRI teams joined our network

*These numbers reflect years 1 and 2 as year 3 activities are taking place in the summer of 2024.

TRAINEES

The SMART Training Platform trains the next generation of health, social sciences and humanities, engineering and natural science researchers, to finds ways to make cities healthier, more liveable, and more resilient.
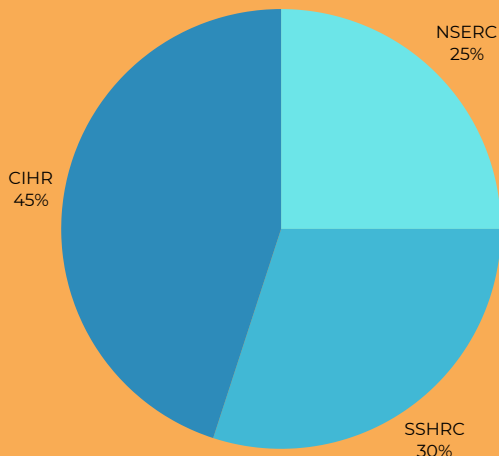
Our program is designed to provide trainees from across Canada with the knowledge and skills to tackle many of the challenges faced in urban environments. Trainees engage in all aspects of how to move knowledge into action from conception, execution, testing, scale up and evaluation.

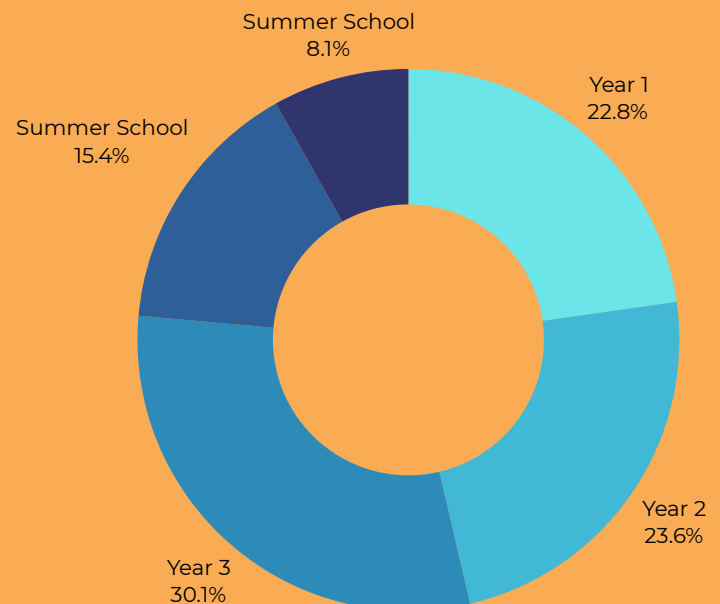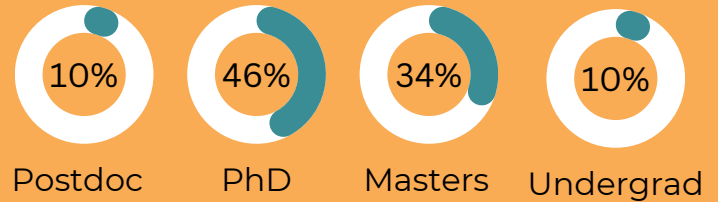The SMART Training Platform has supported a total of **124 trainees** in our first 3 years!

We welcome trainees from **8 provinces** across Canada

Trainee Breakdown:

10%	46%	34%	10%
Postdoc	PhD	Masters	Undergrad

The SMART Training Platform supports trainees from all triagency disciplines:

NSERC 25%

CIHR 45%

SSHRC 30%

Summer School 8.1%

Year 1 22.8%

Summer School 15.4%

Year 2 23.6%

Year 3 30.1%

$100,000+ in leveraged funding for trainee support

46 different academic supervisors

MEET OUR TRAINEES!

Click the link to meet our diverse cohort of trainees and uncover the stories behind their academic journeys. Get inspired, connect, and explore the vibrant community shaping the future of healthy cities!

CURRICULUM

SUMMARY

We have been able to imbed our first two courses within the formal course calendar at the University of Guelph, which has become a template for the potential launch of similar courses at the University of Manitoba. This has also accelerated discussions for the creation of micro-credential course equivalent to support the training of professionals.

The creation of micro-credential courses was intended to be a legacy opportunity to retain and expand the offering our curriculum beyond traditional students to include professionals seeking to gain new skills or upskill. We anticipate offering this additional avenue in year 4. The online delivery format to accommodate students across Canada has also enabled us to attract and host our first trainee from South Korea participating in our "Methods Café," fundamentals of implementation science.

The coming together of trainees from diverse backgrounds representing CIHR, NSERC, and SSHRC disciplines in our courses have created a fertile ground for many 'light bulb' moments while engaged in discussions on 'wicked problems' facing global populations. Understanding problems from multiple lens will undoubtedly help the next generation of leaders to be more effective. In addition, we successfully launched a third course, one more than originally intended. The third course on Agent Based Modelling has also attracted professionals seeking to gain new skills or upskill, which has attracted students from Europe and USA.

We have expanded the summer school to include registration of professional students. This has greatly enriched the interactions and perspectives shared with younger graduate students who are trying to understand how the 'world' outside academia works. The summer school has been offered twice with a focus on circularity. It will be moving to Montreal in years 3 and 4 with a focus on the role of big data driven decision making in implementation science and convergence by design for tackling healthy cities challenges.
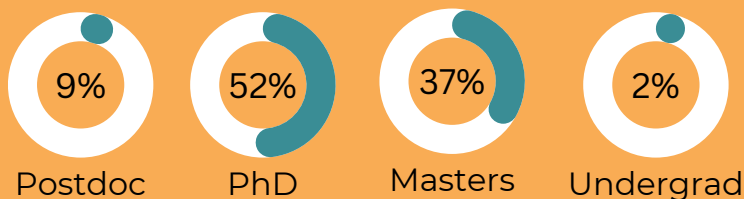
CURRICULUM

COURSES - METHODS CAFE

This course exposes students to novel research from various fields —from computer science to health and nutrition, sociology, marketing, and ecology — to explore complex challenges that urban environments face with regards to food access, mobility, and overall population health. Trainees dive into state-of-the-art implementation science methods that range from effective community engagement to computational science.

Chart legend: MSc | PhD | PDF | Undergrad

Year 1, Year 2, Year 3 (horizontal bar chart, axis 0 to 30)
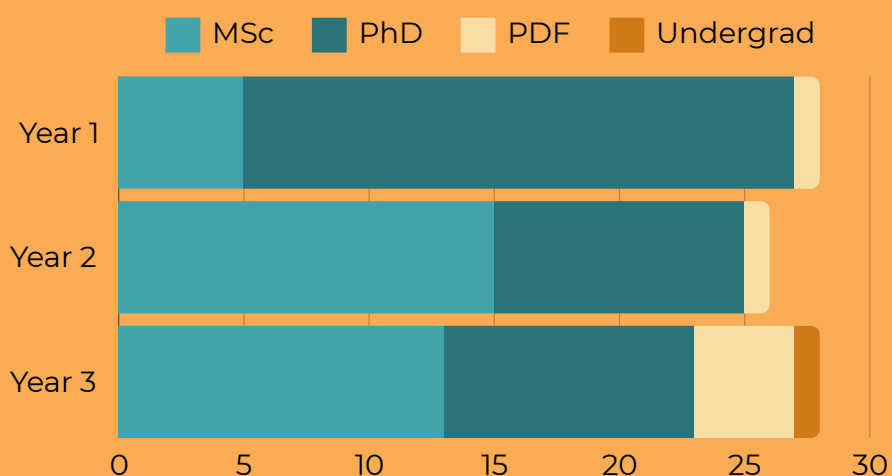
"This course was beyond informative and helpful to me. I learned tons of new things and I enjoyed the group discussions and questions to the speakers. The course provided me with new knowledge that I will certainly apply to me own research work and helped me expand my network connections."

Cumulative Trainee Level:

9% Postdoc | 52% PhD | 37% Masters | 2% Undergrad

4 cohorts facilitated across 3 years

110 trainees have completed the course

78% of trainees found opportunities to apply the course topics to their research

**79%** of trainees would recommend this course to other students.

"This course should be a MUST for everyone, doesn't matter what discipline, what stage of career, or interests. In this course you'll learn how to work together with a interdisciplinary team to improve people's life using evidence-based interventions that go beyond usual approaches."

CURRICULUM

COURSES - IMPLEMENTATION DESIGN LAB

Participants take a transdisciplinary approach and work together to address topics related to Smart Healthy Cities through implementation science and design thinking in a virtual lab. Teams evaluate real-world projects to test, prototype and develop solutions that meet the defined program needs.
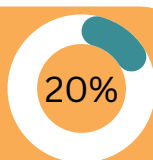
Cumulative Trainee Level:

10% Postdoc

70% PhD
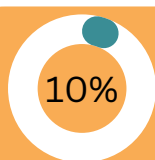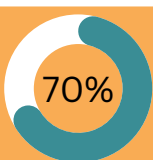
20% Masters

83% found the course intellectually stimulating

100% agree there are opportunities to apply course learnings to their research

"Implementation design labs course was one of the enjoyable course I took so far in my career. It was challenging, and at the same time provided us as researcher to think in a different way to our research questions. As a team of multi-disciplinary backgrounds we were working on a common goal to address one of the wicked problems associated with an agency. This was quite challenging at the same time fun. Therefore I would definitely recommend this course to all the incoming students on SMART training platform."

100% of students would recommend this course to other students

"I really enjoyed this course - especially the experiential learning format. It was a valuable learning opportunity to have the freedom to tackle a project as a transdisciplinary team, while receiving expert supervision and guidance. I have learned a lot that I will take into my future implementation work."
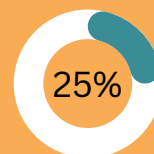
CURRICULUM

AGENT BASED MODELLING

Agent-based models are computational simulation models, applied in a wide range of disciplines across the social sciences, used to explore complex problems. This class provides an accessible introduction to agent/individual based models and the complex problems they are used to explore, with an emphasis on healthy cities applications.

The Agent-based Modelling course, offered through the SMART Training platform in partnership with the University of Waterloo, caters to trainees seeking to enhance their understanding of implementation science through modelling and systems thinking. **During course development, 65% of trainees expressed interest in this offering.**
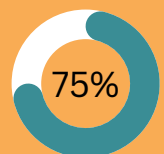
"This course gave me guided, hands-on experience to acquire new skills that are integral for my own research and professional development. The instructor and my fellow students helped create an effective learning environment online, and I found the course to be well worth the time invested in it."

To date, the platform has run **2 cohorts** with **8 trainees**

25%
Postdoc

75%
PhD

"As a PhD student, I was considering Agent-based modelling for my paper in my dissertation. It was a new method, and I did not know precisely what it entails. This course provided me with an understanding of the method and got me coding a model very quickly. Now that the course is finished, I have all the necessary ingredients to make it my third dissertation paper. The course was an accelerator in my learning."

60% of students would recommend this course to other students

Following the initial success of this pilot cohort of Agent Based Modelling students, we will continue to offer in subsequent years. Additionally, we aim to adapt the content to deliver as a micro-credential course in the future.

CURRICULUM

PROFESSIONAL TRAININGS

The SMART Training Platform, in collaboration with our community partners, has developed training materials on implementation science tailored specifically for business owners. This innovative toolkit aims to equip industry professionals with the essential knowledge and tools derived from implementation science principles, enabling them to effectively integrate evidence-based practices into their business strategies. By leveraging our collective expertise and resources, we strive to empower business owners with the skills necessary to navigate complex challenges.

MICRO-CREDENTIALS

The SMART Training Platform is committed to advancing implementation science training by curating a suite of micro-credential course. By doing so, we will empower learners to engage with our content in a more flexible and targeted manner, allowing them to acquire specialized skills and knowledge. This approach not only ensures that our training remains relevant in a rapidly evolving landscape but also provides participants with tangible recognition of their expertise. Through micro-credentialing, we aspire to cultivate a community of practitioners equipped with the tools and competencies needed to drive impactful change in healthy cities.

WEBINARS

The SMART Training Platform has successfully hosted two webinars to date. Moving forward, we aspire to foster collaboration and expand our reach by hosting a greater number of webinars annually. Our aim is to serve as a centralized hub for webinar resources and activity updates within our network, facilitating greater connectivity and knowledge exchange among our community members. Through these efforts, we endeavor to enrich learning experiences and promote ongoing dialogue in the field of implementation science.

ANNUAL CONFERENCE

The objectives of the annual conference are to foster an interdisciplinary and intersectoral community of practice among researchers, trainees, practitioners, and knowledge users interested in healthy cities. The conference facilitates the transfer of knowledge regarding current issues, research, and potential solutions for healthy cities. Identify emerging priorities for healthy cities, research questions, and training opportunities.

CUMULATIVE METRICS:

Overall Attendee Breakdown:

73% Academia/ Research

21% Government

4% Healthcare /Clinical

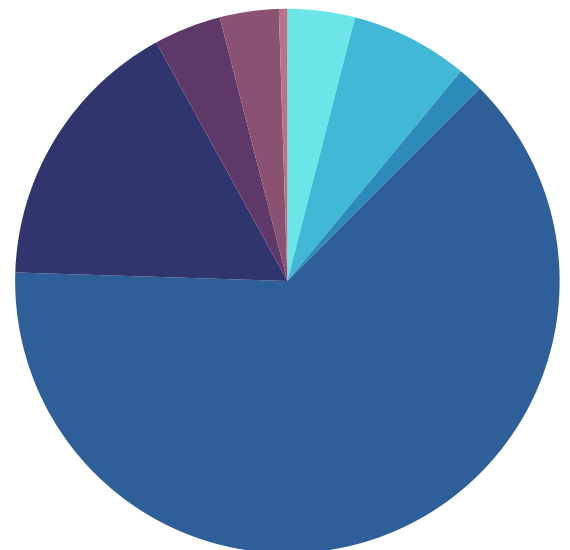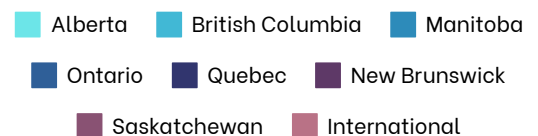**2%** Other
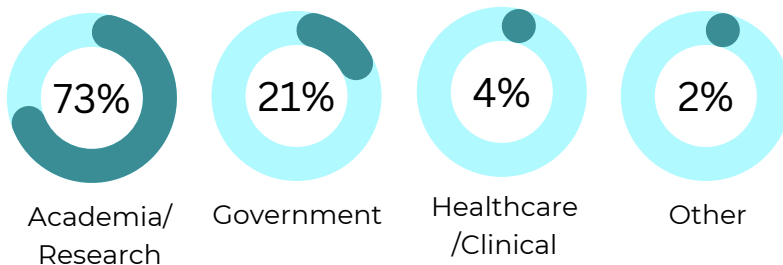
63% of academics in attendance were trainees

150+ attendees projected for third annual conference

The SMART Training Platform has hosted **2 conferences** with **227** total attendees.

Year 1 101

Year 2 126

89 trainees presented abstracts

Attendee Reach:

- Alberta
- British Columbia
- Manitoba
- Ontario
- Quebec
- New Brunswick
- Saskatchewan
- International
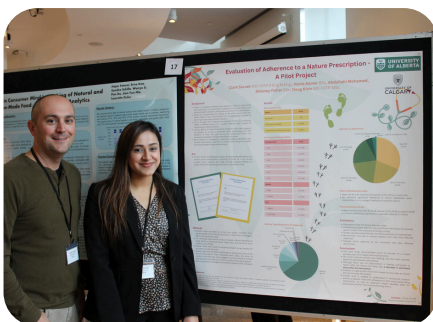
FIRST ANNUAL CONFERENCE:

In November 2022, we hosted the First Annual Healthy Cities conference in Ottawa, Ontario, with a focus on the central role of food in urban environments. Key topics included leveraging 'big data' for smart urban solutions, addressing challenges faced by Indigenous communities, and exploring the facets of the circular economy in future cities. Our aim was to enhance understanding of implementation science and foster healthier cities through research excellence, capacity building, and knowledge mobilization.

The program commenced with a welcome and announcement from the Healthy Cities Research Initiative. Chief Scientific Officer Dr. Christian Baron and Parliamentary Secretary to the Minister of Health, Adam van Koeverden, announced their research investment in creating healthier, more equitable communities. We celebrated the six winning teams, both in person and virtually, as they received the live announcement of the Government of Canada's $27 million investment supporting research teams studying how to improve the health and equity of Canada's cities.

The conference featured speakers and panelists from around the world, breaking down silos to explore various aspects of healthy cities. Each session included a keynote speaker and a panel comprising stakeholders from research, academia, government, non-profit, and industry sectors to provide comprehensive insights.

SECOND ANNUAL CONFERENCE:

The second-year conference, conducted virtually from November 1st to 3rd, 2023, covered various topics related to healthy cities, such as implementation science, convergence-by-design, food and health, Indigenous issues, equity, aging and chronic disease, transportation and housing, and training and policy. With over 30 national and international speakers, the platform facilitated discussions on these subjects throughout the three days. Representatives from HCIS team grants also presented on their research within the healthy cities framework.

THIRD ANNUAL CONFERENCE - JUNE 2024

In the summer of 2024, the SMART Training Platform is set to host its third annual Healthy Cities Conference. Taking place on June 24th, the conference invites academics, students, and multi-sector stakeholders to the University of Guelph for a one-day immersive event.

The SMART Training Platform will be held jointly with the internationally recognized Circular Economy Hotspot Conference providing attendees with an incredible opportunity to learn about healthy cities from an international perspective. The third annual conference aims to extend discussions on the practical application of research and knowledge to enhance the resilience and liveability of our cities. Moreover, the event serves as an annual rendezvous for investigators and stakeholders, fostering collaboration and breaking down barriers within the diverse facets of urban environments.

"Diversity of topics and speakers. The online format gives flexibility to those who cannot travel and actually increases engagement across the country. The mini recorded presentations for the project abstracts was a fantastic opportunity for trainees. This gave them an opportunity to give an oral presentation at a national conference and some of these were the best presentations of the conference! The video sessions were seamless."

"Great opportunity to learn about examples of true interdisciplinary healthy cities research and practice."

"I really enjoyed the various topics of the poster presentations and I liked that they were recorded so we got to hear more presentations more efficiently. I thought the poster presentations were the most valuable as they covered topics that were more likely to be applicable to everyday researchers"
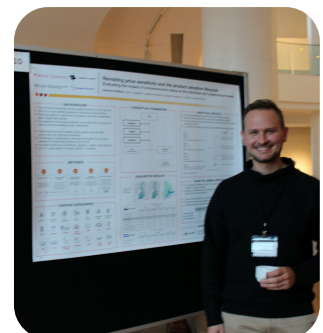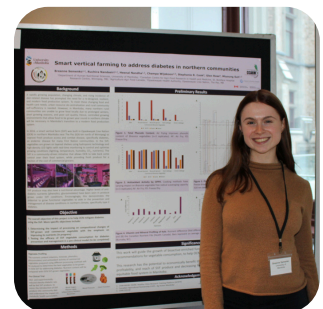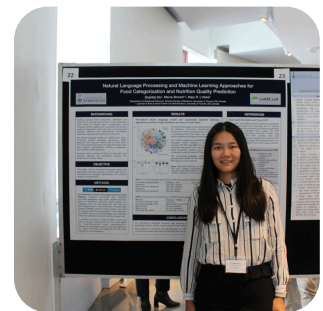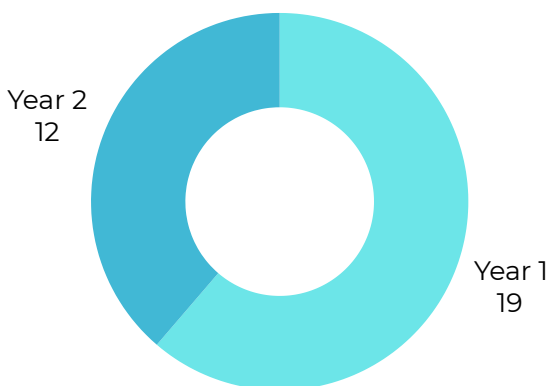
SUMMER SCHOOL

The SMART Training Platform's summer school provides an opportunity to gain insights into implementation science and healthy cities, covering various aspects such as physical activity, healthy aging, social connectivity, economic opportunity, and more. Open to senior undergraduates, graduate/postdoctoral students, and working professionals, the program aims to bridge the gap between knowledge and action by addressing current and future urban challenges.

The weeklong event includes interactive sessions, roundtable discussions, field trips, and a case study project where interdisciplinary teams tackle real-world problems. This immersive approach offers foundational knowledge in implementation science within the context of healthy cities. Participants work collaboratively to understand complex issues presented by sector partners, fostering cross-disciplinary learning.

CUMULATIVE METRICS:

The SMART Training Platform has hosted **2** summer schools to date with **31** total attendees.
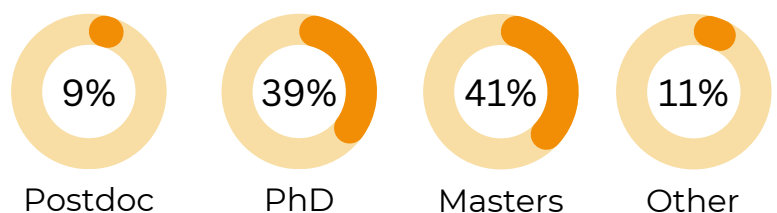
Year 2
12

Year 1
19

9 community partners engaged across the 2 events.

The SMART Training Platform welcomed trainees from **8** provinces and **3** countries.

Attendee Reach:

- Alberta
- British Columbia
- Manitoba
- Ontario
- Quebec
- Saskatchewan
- International

Attendee Breakdown:

9%	39%	41%	11%
Postdoc	PhD	Masters	Other

SUMMER SCHOOL (YEAR 1):

In summer 2022, we conducted a Circular Economy Summer School program, bringing together graduate students and practitioners from various sectors across Canada. The collaborative effort involved University of Guelph's Arrell Food Institute, SMART Training Platform, Research Innovation Office, and the Our Food Future initiative in Wellington County and Guelph. Graduate students from 10 Canadian universities spanning over 11 disciplines, along with two Research Innovation Office policy fellows, participated in the program.

The summer school aimed to deepen participants' understanding of circular economies. The week commenced with a Circular Economy Business and Community Roundtable, covering regenerative agriculture, resource exchange, upcycling, collaboration, packaging, plastics, and social innovation and financing. These discussions laid the foundation for interdisciplinary collaboration among students. Throughout the week, students developed pitches for circular economy solutions which were presented to a panel of judges on the final day. Students also toured sustainable agricultural businesses in Guelph-Wellington.
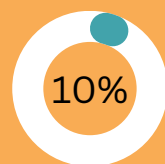
94% of students strongly agree this experience helped develop peer network and interactions with students in other fields and institutions.

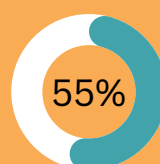**19** attendees from **5** different provinces
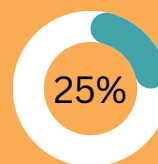
81% would recommend to their peers

Attendee Breakdown:

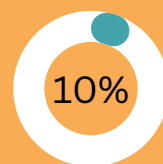| 10%	55%	25%	10%
Postdoc	PhD	Masters	Other

SUMMER SCHOOL (YEAR 2):

The SMART Training Platform's second summer school, in 2023, expanded on the year one framework. The weekly activities focused on big data, agriculture, and implementation science concepts. Canadian graduate students participated in design lab case studies, a field trip, coursework, and the Digital Agri-food conference, applying implementation science principles to address and tackle real-world problems.

"I highly recommend this experience. It gives you the unique opportunity to met with individuals tackling real-world complex issues and work with multidisciplinary peers to problem solve in a collaborative and applied manner. It is an immersive opportunity that is good for any student or individual interested in context-driven, systems thinking-focused implementation science."

12 attendees from **4** different provinces

86% of attendees would recommend the summer school to their peers

Attendee Breakdown:

42%	34%	8%	16%
PhD	Masters	Postdoc	Other

71% of attendees agreed that the summer school met their expectations

"It EXCEEDED my expectations! I really grew as a researcher and person from this experience. I'm even more excited to start my PhD and inspired to do impactful research. Also, everyone involved was so kind and interesting that it made the week feel like such a treat."

The summer school engaged **8** community partners

SUMMER SCHOOL (YEAR 3) - MAY 2024

In May 2024, the SMART Training Platform is set to host its annual Summer School in Montreal. Having successfully concluded two prior sessions, the platform aims to expand the event nationwide, specifically focusing on the three founding institutions. Montreal has been chosen as the host city for this year's program, concentrating on the themes of healthy cities and big data.

Leveraging our extensive network, the SMART Training Platform will collaborate with stakeholders in Montreal to address complex challenges, encouraging participants to apply and implement knowledge from their respective disciplines. By dismantling silos and delving into real-world case studies, the program provides a unique opportunity for trainees to tackle the intricate problems confronting urban environments. This multidisciplinary, hands-on approach fosters an environment for participants to explore and enhance their individual research efforts, ultimately contributing to the development of cross-sector solutions.

TESTIMONIALS:

"10C Shared Space was a project partner for the summer school in 2023, and we are very happy to be included in this work. This partnership provided us with the opportunity to meet and tour students from outside of Guelph and orientate them to local food options. With hands-on opportunities through the Guelph Farmers' Market and Harvest Impact our social finance program we introduced them to many of the current resources, data and programs here in Guelph-Wellington, sharing solutions that are currently in progress.

We are grateful for this opportunity to be included, and hope to see future students visit Guelph-Wellington and learn how we can help solve some of our most complex societal problems together with the not-for-profit community."
- Community Partner

"The interdisciplinary selection of candidates for this program was incredibly valuable. Working with people with different perspectives and experience helped me frame problems and solutions in a different light."

"An inspiring week of collaborative learning in the classroom and in the field! The organizers were incredible, the lessons were eye opening, the concepts were stirring, and the collaborations were invaluable. I will use these lessons in my research."

"The Summer School was an excellent, informative experience that allowed me to network with a great, multidisciplinary group of motivated students, researchers, and professionals."

EXPERIENTIAL LEARNING

MITACS

In 2024, the SMART Training Platform plans to advance discussions and strategic planning concerning Mitacs opportunities for our trainees and network partners. Our aim is to enhance experiential learning by leveraging national and international collaborations, facilitating the exchange of trainees to enrich their understanding, knowledge, and practical application of implementation science within the framework of healthy cities.

PLACEMENTS & PROJECTS

University of Guelph: In collaboration with the City of Guelph Smart Cities Office, trainees engage with one or more of the businesses working with the City of Guelph to assist in the design and implementation of projects, evaluate ongoing or completed projects to identify decision points and processes that were successful or may need improvement to enable successful scaling in the future. These projects may require expertise from across all Tri-Agency domains including health (CIHR), big data (NSERC) and equity in systems approaches (SSHRC).

University of Manitoba: The OCN Smart Vertical Farm team and OCN Health Authority (OHA) in The Pas will provide unique experiential learning opportunities to trainees. Trainees work with Paskwayak Business Development Corporation (The Pas) and/or Myera Group Inc (Winnipeg) to evaluate the impact of vertical farming technologies developed to produce high-quality functional foods tailored to meet the nutritional needs of the local communities and reduce the incidence of chronic disease, and diabetes in particular.

McGill, University of Montreal, and Laval University: The Montreal Smart City initiative has rich opportunities for trainees to be immersed in big data collaboration. Complementing the work of Smart Cities is the City Lab, which works with universities (McGill, Montreal and Dawson College) to develop programs in support of the needs of the community and city partners.

EXPERIENTIAL LEARNING
PROJECT HIGHLIGHT - OPASKWAYAK CREE NATIONS

About the project: University of Manitoba's experiential learning program focuses on vertical farm systems for food production in northern communities at affordable costs. Our philosophy is to develop the systems, not for but with northern Indigenous communities. Therefore, it was part of our graduate student training program to learn the Indigenous cultures thorough "field" trips. The two graduate students and two undergraduate students in our team went to Opaskwayak Cree Nations (OCN) to meet with a team that operates a vertical farming facility. The students had a chance to see how the vertical farming system works at OCN, and to discuss the food issues with the community leaders."

*"Our lab has specifically focused on teaching about the problems around Canada's northern food environments, and its impact on the local population's health. To take actions and show students the practical side of what they're learning, we made several trips up to a First Nations reserves. Postdoctoral Fellows, graduate and undergraduate students, regardless of their projects, went to Opaskwayak Cree Nations, The Pas, during 'Indian Days' in August, 2022; and the community's 'Health Fair' days in November, 2022. For each trip, we stayed for 3-5 days to communicate with the Opaskwayak Cree Nations Health Authority and Smart Vertical Farm operation team. We have show cased our research to the local community members, in efforts to increase their knowledge around nutrition and healthy eating. We provided infographics on our fetal alcohol spectrum disorder studies (performed with the help of pregnant mothers from their community), and displayed posters on our current UM project plan for their Smart Vertical Farm." - **Faculty**

EXPERIENTIAL LEARNING
PROJECT HIGHLIGHT - OPASKWAYAK CREE NATIONS

"I am incredibly grateful for the transformative experience I had with experiential learning with Opaskwayak Cree Nation (OCN) Indigenous community working closely with the smart farm for the last two years. Working closely with Indigenous communities allowed me to immerse myself in their rich cultural heritage, understanding of their values, traditions, and unique ways of life. The experiential learning approach provided a platform for authentic, hands-on engagement that transcended traditional educational boundaries. Attending their cultural events including Indian Days and attending the health fair organized by the OCN authority further created me opportunities to engage with them better. It wasn't just about acquiring knowledge; it was about forging genuine connections, breaking down barriers, and actively participating in the preservation and celebration of their cultural identity, while translating the knowledge to the other generations. Additionally, this experience provided me another opportunity to inspire about social justice and community empowerment to take this project to the next level to popularize the consumption of functional vegetables among the community. I believe that this is a journey that not only enriches my understanding of diverse cultures, but also shapes me into a more compassionate and socially responsible Canadian citizen." **- SMART Training Platform Trainee**
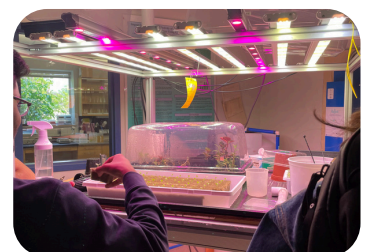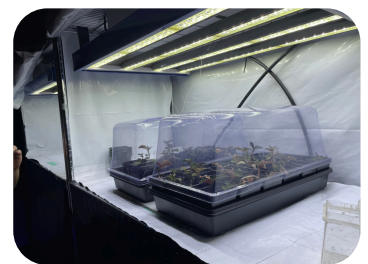
SOCIAL MEDIA

In addition to active modes of learning, the SMART virtual hub includes our website and suite of other social media channels and offers the opportunity for followers to engage with a variety of content related to the SMART Training Platform.

Visit our website here!

Instagram

Follow us!

53 Followers

Average of 12 likes per post

Twitter

Follow us!

87 Followers

Average of **510** tweet impressions per month in 2022

51% growth since 2021

23% growth since 2021

LinkedIn

80% growth since 2021

99 Followers

1,162 page impressions in 2022

Average of **48** page views per month in 2022
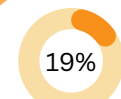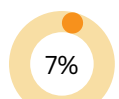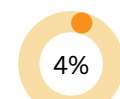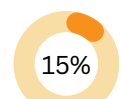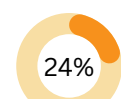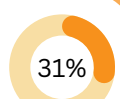
19% Research	7% Business	4% Healthcare	15% Community	24% Education	31% Other

58% growth since 2022

Follow us!

What we are working on:

Building out our suite of resources through Youtube, Vimeo, and our website to house additional educational and training materials. Stay tuned!

APPENDIX 1:
REFEREED PAPERS

El Haffar, G., Durif, F., Soamn, D. and **Dubé, L.** (Forthcoming). Green, But at What Cost? A Typology of Perceived Green Costs: Conceptualization, Scale Development, and Validation, Journal of Cleaner Production

El Haffar, G. and **Dubé, L.** (Forthcoming) "Consumer's Acceptance (or lack thereof) of Sustainable Food Innovations, Setting Foundations for Convergence Innovation." In Smart Food Industry: The Blockchain for Sustainable Engineering (Volume II – Current Status, Future Foods, and Global Issues), CRC Press (Taylor & Francis Group), pp. 236-247, 2023.

Weydmann, G., Miguel, P. M., Hakim, N., **Dubé, L.**, Silveira, P. P., & Bizarro, L. (In Press). "How are overweight and obesity associated with reinforcement learning deficits? A systematic review." Appetite, https://doi.org/10.1016/j.appet.2023.107123

Paquet, C., Whitehead, J.C., Shah, R., **Adams, A.-M**., Dooley, D., Spreng, N., **Aunio, A.L, Dubé, L.** " Social Prescription Interventions Addressing Social Isolation and Loneliness in Older Adults: Meta-Review Integrating On-the-Ground Resources." Journal of Medical Internet Research, 25, (2023): 1-66. https://www.jmir.org/2023/1/e40213/

Shafighi, K., Villeneuve, S., Rosa-Neto, P., Badhwar A.P., Poirier, J., Sharma, V. Iturria-Medina, Y., Silveira, P.P., **Dubé, L.**, Glahn, D. and Bzdok, D. "Social isolation is linked to classical risk factors of Alzheimer's disease-related dementias." PLOS One, (2023): 1-20.

Semenko B, Nandasiri R, Cook S, Wijekoon C, **Suh, M** (2023) Optimization of light, water, and nutrient intake to improve the nutrient and antioxidant status of broccoli sprouts (Submitted to J. Food Sci and Technology)

Nandasiri R, Semenko B, Wijekoon C & **Suh M** (2023) Thermal processing via air frying improves the antioxidant properties of Brassica vegetables. Antioxidants 12(2): 490-508. (Feb) https://doi.org/10.3390/antiox12020490

REFEREED PAPERS
YEAR 1-3

Ma, Y. Chang, J., Mamiya, J., Ghasempur Sis, J. and **Dubé, L**. An empirical investigation of the substitute and complementary relationships between fresh, frozen, and canned fruits and vegetables in Quebec Consumers, In CUPUM, 18th International Conference on Computational Urban Planning and Urban Management, Montreal, Canada, pp. 1-10, 2023.

Belkhiria, F., **Nie, J.Y.**, Zhu, T., **McRae, C**. and **Dubé, L**. "EATS: A next-generation adaptive recommender system for healthy food purchase nudges," In CUPUM, 18th International Conference on Computational Urban Planning and Urban Management, Montreal, Canada, pp. 1-27, 2023.

Zhang, D. and **Sangupta, R**. and **Dubé, L**. "Reinforcement Learning into Agent-Based Model, A Simulation of Urban Customers' choices on grocery store," In CUPUM, 18th International Conference on Computational Urban Planning and Urban Management, Montreal, Canada, pp. 1-19, 2023.

Liu, Z. and **Zhang, Y.** and **Dubé, L**. "Service Region and Capacity Design for Bike-Sharing Systems, A Data-Driven Risk-Averse Robust Decision Mode," In CUPUM, 18th International Conference on Computational Urban Planning and Urban Management, Montreal, Canada, pp. 1-12, 2023.

El Haffar, G., Cameron McRae, C., Belkhiria, F., Ma, Y., Aunio, A-L., Paquet, C. and Dubé, L. "Seeking Environmental Justice in a Developed City, How Does Citizen's Carbon Footprint Compare Between Advantaged and Disadvantaged Neighborhoods in the City of Montreal," In CUPUM, 18th International Conference on Computational Urban Planning and Urban Management, Montreal, Canada, pp. 1-11, 2023.

Pepetone A, Qutub M, Andrade L, Wallace MP, **Kirkpatrick SI**. Food security status in relation to co-operative enrolment among University of Waterloo undergraduate students: A cross-sectional analysis. Canadian Journal of Dietetic Practice and Research, 2023, 84(4):211-217. doi: 10.3148/cjdpr-2023-003. PubMed.

Pepetone A, Frongillo EA, Dodd KW, Wallace MP, Hammond D, **Kirkpatrick SI**. Prevalence and severity of food insecurity before and during the coronavirus disease 2019 pandemic among adults and youth in Australia, Canada, Chile, Mexico, the United Kingdom, and the United States. Journal of Nutrition, 2023, 153(4):1231-1243. doi: 10.1016/j.tjnut.2022.12.031. PubMed.

*Ahluwalia, M; *Leslie, H.; *Steadman, N; *Beauchamp, DM; *von Holt, R; *Cartwright NM; *Brendel, E.B.K.; **Monk, JM**. Effectiveness of a sliding scale payment model at a community food market to reduce customer food insecurity status, Journal of Food Security, Volume 11, Issue 3, 106-116 (2023) http://article.journaloffoodsecurity.com/pdf/jfs-11-3-4.pdf

C Chen, A Homez-Jara, MG Corradini. 2023. Virtualization of foods: Applications and perspectives toward optimizing food systems. Frontiers in Food Science and Technology, 3:1203544.

A Homez-Jara, H Cardenas-Roa, M Montealegre, L-T Lim, **MG Corradini**, HA Vaquiro-Herrera, A Sandoval-Aldana. 2023. Post-harvest treatments of Hass avocado (Persea americana Mill.) and estimation of its quality using hyperspectral imaging (HSI). ACS Food Science and Technology, 5:932-944. Selected for ACS press release.Maleeka

AP Bassey, Y Zhang, Y Zhua, X Cuia, X Zhang, X, **MG Corradini, M Singh**, X Liu, H Zhang, H. 2024. Tandem mass tag-based quantitative proteomics elucidates the sterilization inactivation mechanisms of high-power pulsed microwave treatment on Pseudomonas aeruginosa PAO1. Innovative Food Science and Emergent Technologies, 91: 103532.

REFEREED PAPERS
YEAR 1-3

M Singh, R Young, R Hanner, R. Hellberg, **MG Corradini**, J Farber. Twenty-three Years of PCR-based Seafood Authentication Assay Development: What Have We Learned? (submitted – Trends in Food Science and Technology)

M Faieta, C Chen, **LA Colaruotolo**, L Huynh, **MG Corradini,** P Pittia. High-Pressure Processing (HPP) of Phycocyanin Extract Solutions: Enhancing Stability through Molecular Interactions (submitted – LWT)

Nandasiri R., Semenko B, Wijekoon C, **Suh M** (2024) Air-Frying Improves the Phenolic Bioactive Composition and Anti-hypertensive Properties of Thermally Processed Brassica oleraceae Vegetables" (JFDS-2024-0487)

APPENDIX 2:
REFEREED CONFERENCE
PRESENTATIONS

REFEREED CONFERENCE PRESENTATIONS
YEAR 1-3

Semenko B, Nandasiri R, Cook S, Ross G, Wijekoon C, Suh M (2023) Optimization of Growing Conditions to Improve the Antioxidant Status of Broccoli Sprouts in a Vertical Farm System. The 2nd Annual Healthy Cities Conference (Virtual), Nov 1-3, 2023.

Nandasiri R, Semenko B, Cook S, Ross G, Wijekoon C, Suh M (2023) Smart controlled and thermally processed brassica vegetables demonstrate protective properties against non-communicable diseases: an in-vitro study. The 2nd Annual Healthy Cities Conference (Virtual), Nov 1-3, 2023.

Semenko B. (2023) Accessible Fresh Food Production and Processing to Address Diet-Related Disease in Remote Canada. The Association of Korean Woman Scientists and Engineers (KWSE) Sept 2023 (Virtual competition) (Won 2nd place in 2023 Young Woman Scientist Webinar.)

Fan Y, Nandasiri R, Le K, Suh M, Myrie S (2023) Mushrooms especially Chaga as a complementary and alternative medicine to treat non-communicable diseases with advanced antioxidant properties. Canadian Nutrition Society Meeting, Quebec City, Quebec, May 4-6, 2023.

Semenko B, Nandasiri R, Nandha H, Wijekoon C, Cook SR, Ross G, Suh M (2023) Improved antioxidant properties of Brassica vegetables via air frying technology: Implications for diabetes in Northern Communities. Canadian Nutrition Society Meeting, Quebec City, Quebec, May 4-6, 2023.

Nandasiri R, Semenko B, Wijekoon C, Cook SR, Ross G, Suh M (2023) Green processing and related technologies in creating functional vegetables via sustainable agricultural practices and smart vertical farming. Green Food Technology 2023, Montreal, Quebec, May 18-19, 2023.

REFEREED CONFERENCE PRESENTATIONS
YEAR 1-3

Semenko B, Nandasiri R, Wijekoon C, Cook SR, Ross G, & Suh M (2023). Smart farming technology to address fresh food and nutrition associated health inequities in Northern Manitoba. Canadian Sustainability of Canadian Agriculture Conference, Winnipeg, MB, March 2023. (Semenko won 2nd place on video presentation competition and People's Choice)

Semenko B, Nandasiri R, Nandha H, Wijekoon C, Cook SR, Ross G, Suh M (2023) Vegetable processing to improve anti-diabetic properties for northern communities. International Trainee Symposium in Agri-Food, Nutrition and Health – CCARM, Rapid Fire Research Symposium, Jan 19-20, 2023, Winnipeg, MB (Semenko won 1st place for an oral presentation in the Health Section, Graduate Student and Trainee Competition).

Fan Y, Nandasiri R, Le K, Ramjiawan B, Suh M, Myrie S (2023) Mushrooms as future therapeutics with advanced antioxidant properties. International Trainee Symposium in Agri-Food, Nutrition and Health – CCARM, Rapid Fire Research Symposium, Jan 19-20, 2023, Winnipeg, MB

Nandasiri R, Semenko B, Fan Y, Wijekoon C, Cook SR, Ross G, Suh M (2022) Mitigating the prevalence of type 2 diabetes in northern communities via sustainable agricultural practices improved food processing, and smart vertical farming. 10th The Indigenous Health Research Symposium, Ongomiizwin-Indigenous Institute of Health and Healing, University of Manitoba, Winnipeg, MB, Nov 17-18, 2022

Semenko B, Nandasiri R, Nandha H, Wijekoon C, Cook SR, Ross G, Suh M (2022) Smart vertical farming to address diabetes in Northern communities, Smart Cities Conference, Ottawa, Nov 17-18, 2022

Nandha H, Semenko B, Nandasiri R, Cook SR, Ross G, Suh M (2022) Smart vertical farming for fresh food resiliency in Northern communities, Smart Cities Conference, Ottawa, Nov 17-18, 2022

REFEREED CONFERENCE PRESENTATIONS
YEAR 1-3

Belkhira, F., Gumus, M., and Dubé, L. Mind your habits: Exploring the impact of different types of shopping habits on shoppers' responsiveness to healthy-eating nudges, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

Belkhira, F., Gumus, M., and Dubé, L. Navigating the Digital-Physical Nexus for Sustainable Snacking using Precision Retailing, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

Bender, G., Özkaya, D., ElHaffar, G., Paquette, A., Knäuper, B.A., Armony, J.L., Whitehead, J.C., Nie, J.Y., and Dubé, L. Developing real-time surveillance for mental health risk: A deep learning model, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

ElHaffar, G., McRae, C., Belkhira, F., Ma, Y., Aunio, A.L., Sengupta, R., Paquet, C., and Dubé, L. Seeking Environmental Justice in a Developed City: How Does Citizen's Carbon Footprint Compare Between Advantaged and Disadvantaged Neighborhoods in the City of Montreal, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

ElHaffar, G. and Dubé, L. The effect of choice architecture interventions on driving sustainable food choices for heterogeneous market segments: A field experiment, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

McRae, C. and Dubé, L. Reshaping loyalty programs for sustainable and healthy diets through omnichannel marketing, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

Bhabra, A., Gieschen, A., and Dubé, L. 23% and counting, but not 'one size fits all': helping Canada's immigrants strengthen their financial knowledge, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

REFEREED CONFERENCE PRESENTATIONS
YEAR 1-3

Zhu, T., Nie, J.Y., Belkhira, F., McRae, C., and Dubé, L. Budget-aware basket optimization based on decoupled item retrieval for economic next basket recommendation, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

McRae, C. and Dubé, L. Accelerating the Sustainability Transition through Mainstream Marketing, poster presented at the 2023 SJDM Conference in San Francisco, November 17-20, 2023.

El Haffar, G., Durif, F., Soman, D. and Dubé, L. The Heterogeneity Revolution in a Greening World: How Behavioral Biases Moderate People's Response to Green Message Construal under Risky and Riskless Decisions, poster presented at the Sustainability: Transdisciplinary Theory, Practice, and Action (STTPA) Conference in Toronto at UoT, Oct. 11-13, 2023.

Dubé, L., Paquet, C., Gieschen, A., Sangupta, R. and Rosenblatt, A. Silveira, P.P., SynthEco: A digital system for analyzing the brain-to-society mechanisms of lifecourse human behavior in its multi-layered and dynamic environment and its mental health and well-being consequences, presented at the 7th BigBrain Workshop (HIBALL) in Reykjavík, Iceland, on October 5-6, 2023. ID 8

Dubé, L. Ozgaya, D., El Haffar, G., Knauper, B., Armony, J.L.B., Whitehead, J.C. and Nie, J.-Y. Developing Real-Time Surveillance for Mental Health Risk: Further Validation of Deep Learning Model for Suicide Ideation Detection and Extension Plan to Neuroimaging Multiscale Mechanisms, poster presented at the 2023 OHBM Annual Meeting in Montreal, July 22-26, 2023. #4361

Belkhira, F., Gumus, M., and Dubé, L. Mind your habits: Exploring the impact of different types of shopping habits on shoppers' responsiveness to healthy-eating nudges, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

REFEREED CONFERENCE PRESENTATIONS
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Belkhira, F., Gumus, M., and Dubé, L. Navigating the Digital-Physical Nexus for Sustainable Snacking using Precision Retailing, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

Bender, G., Özkaya, D., ElHaffar, G., Paquette, A., Knäuper, B.A., Armony, J.L., Whitehead, J.C., Nie, J.Y., and Dubé, L. Developing real-time surveillance for mental health risk: A deep learning model, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

ElHaffar, G., McRae, C., Belkhira, F., Ma, Y., Aunio, A.L., Sengupta, R., Paquet, C., and Dubé, L. Seeking Environmental Justice in a Developed City: How Does Citizen's Carbon Footprint Compare Between Advantaged and Disadvantaged Neighborhoods in the City of Montreal, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

ElHaffar, G. and Dubé, L. The effect of choice architecture interventions on driving sustainable food choices for heterogeneous market segments: A field experiment, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

McRae, C. and Dubé, L. Reshaping loyalty programs for sustainable and healthy diets through omnichannel marketing, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

Bhabra, A., Gieschen, A., and Dubé, L. 23% and counting, but not 'one size fits all': helping Canada's immigrants strengthen their financial knowledge, poster presented at The Second Annual Healthy Cities Conference online, November 1-3, 2023.

El Haffar, G. and Dubé, L. Breaking the mold: deep learning model for suicide ideation detection in social media, poster presented at the 16th CAN-ACN 2023 Meeting, poster # P3-G-753, session 3, on May 31 from 13:30-15:30, in Montreal, Pl. Bonaventure, May 28-31, 2023.

REFEREED CONFERENCE PRESENTATIONS
YEAR 1-3

El Haffar, G. Dubé, L. Ma, Y., Paquet, C. and Belkhiria, F. Food's Carbon Footprint Surveillance Dashboard for the City of Montreal, poster presented at the Green Food Tech 2023, Montreal, May 18-19, 2023.

McRae, C., Saarijärvi, H., Nevalainen, J., Fogelholm, M., Ma, Y. and Dubé, L. (2023). Evaluating price sensitivity for plant and animal protein foods by socioeconomic status: A study of grocer loyalty program data from Quebec and Finland, poster presented at the Green Food Tech 2023, Montreal, Canada, May 18-19, 2023.

McRae, C., Saarijärvi, H., Nevalainen, J., Fogelholm, M., Ma, Y. and Dubé, L. Evaluating the impact of socioeconomic status on price sensitivity: an empirical investigation of plant and animal protein food categories from grocery loyalty program data in Finland and Quebec, Canada, poster presented at the 8th Annual Empirical & Theoretical Symposium for Canadian Marketing Strategy Conference, Kingston, Ontario, May 18-19, 2023.

McRae, C. and Dubé, L. (2023). Revisiting Price Sensitivity under Hedonic Contexts: Uncovering Heterogeneity using Big Data from the Field, poster presented at the Southern Ontario Behaviour and Decision Research (SOBDR) Conference 2023, Toronto, Ontario, May 5, 2023.

Pepetone A, Frongillo EA, Dodd W, Vanderlee L, White CM, Lindberg R, Corvalán C, Aburto TC, White M, Wallace MP, Dubin JA, Dodd KW, Hammond D, Kirkpatrick SI. Hypothesized influence of economic and social COVID-19 policies on household food insecurity: A theory of change. Healthy Cities Conference. Online. 2023.

Holmes, M. Applications of Geographic Information Systems (GIS) for use in urban food systems research. Healthy Cities Conference. Online. 2023

REFEREED CONFERENCE PRESENTATIONS
YEAR 1-3

Thompson C, Holmes M, Horsey B, Vidgen HA. How do you navigate your food environment? Reaching consensus on an international definition of food literacy with young people based on lived experience. UNFAO World Food Forum. 2023

Holmes M, Qutub M, Hussain S, Azevedo Perry E, Thomas H, Kennedy L, Samra HR, Edmonstone S, Valleau L, Frongillo EA, Keller HH, Vidgen HA, Kirkpatrick SI. Assessing the construct validity of full and short versions of a food literacy measure for use with postsecondary students. International Society for Behavioral Nutrition and Physical Activity. Uppsala, Sweden. 2023.

Holmes M, Qutub M, Hussain S, Azevedo Perry E, Thomas H, Kennedy L, Samra R, Edmonstone S, Valleau L, Frongillo EA, Keller HK, Vidgen HA, Kirkpatrick SI. Construct validity of a multi-dimensional measure of food literacy (FLit) among post-secondary students. Canadian Nutrition Society, Québec City, QC. Applied Physiology, Nutrition and Metabolism, 2023.

6Pepetone A, Frongillo EA, Dodd KW, Wallace MP, Vanderlee L, Dubin JA, Dodd W, Hammond D, Kirkpatrick SI. Examining youth's experiences of food insecurity in Canada in 2020. Canadian Nutrition Society, Québec City, QC. Applied Physiology, Nutrition and Metabolism, 2023.

Holmes M, Qutub M, Hussain S, Azevedo Perry E, Thomas H, Kennedy L, Samra R, Edmonstone S, Valleau L, Frongillo EA, Keller HK, Vidgen HA, Kirkpatrick SI. Construct validity of a multi-dimensional measure of food literacy (FLit) among post-secondary students. School of Public Health Sciences Research and Practice Conference. Waterloo, ON. 2023.

Milano A, Dodd KW, Wallace MP, Dubin J, Hammond D, Kirkpatrick SI. Diet quality over time among adults in Canada. School of Public Health Sciences Research and Practice Conference. Waterloo, ON. 2023.

REFEREED CONFERENCE PRESENTATIONS
YEAR 1-3

Pepetone A, Frongillo EA, Dodd KW, Wallace MP, Vanderlee L, Dubin JA, Dodd W, Hammond D, Kirkpatrick SI. Examining youth experiences of food insecurity in Canada in 2020 to support targeted solutions. School of Public Health Sciences Research and Practice Conference. Waterloo, ON. 2023.

Holmes M, Qutub M, Hussain S, Azevedo Perry E, Thomas H, Kennedy L, Frongillo EA, Keller HH, Vidgen HA, Kirkpatrick SI. A collaborative approach to evaluating and applying a measure of food literacy among young adults. Healthy Cities Conference. Ottawa, ON. 2022.

Pepetone A, Frongillo EA, Dodd KW, Wallace MP, Vanderlee L, Dubin JA, Hammond D, Kirkpatrick SI. Examining youth experiences of food insecurity in Canada in 2020 to support the implementation of targeted solutions. Healthy Cities Conference. Ottawa, ON. 2022.

Pepetone A, Frongillo EA, Wallace MP, Hammond D, Kirkpatrick SI. Household food insecurity in middle- and high-income countries before and during the COVID-19 pandemic. American Society for Nutrition, online. Current Developments in Nutrition, 2022.

Implementation of a sliding-scale payment model in community food markets to reduce food insecurity *Beauchamp, D.M.; *von Holt, R; *Cartwright, N.M.; *Ahluwalia, M.; *Emery, H.; *Steadman, N.; Monk, J.M., First Annual Healthy Cities Conference: The Future of Healthy Cities, Ottawa, Canada. November 17, 18, 2022.

Development a Nutrition Knowledge Translation Workbook for Physically Active Adults: Outcomes from a Pilot Study with Varsity Athletes *Diamond, N.; Monk, J.M. Second Annual Healthy Cities Conference November 2, 2023.

REFEREED CONFERENCE PRESENTATIONS
YEAR 1-3

MG Corradini, C Chen, A Homez-Jara, M Singh, LA Colaruotolo. 2023. Unscrambling the underlying phenomena in food waste and spoilage. IFT 2023 Annual Meeting, Chicago, IL, USA.

M Singh, M Zhang, S Rathnayake, RH Hanner, MG Corradini. 2023. Maple syrup adulteration: Unscrambling fluorescence fingerprints for enhanced detection. IFT 2023 Annual Meeting, Chicago, IL, USA.

LA Colaruotolo, C Chen, J. Stobbs, H Abdelrahman, JE Fong, A. Homez-Jara, MG Corradini. 2023. Scouting structural features that contribute to component instability in 3D printed food matrices. IFT 2023 Annual Meeting, Chicago, IL, USA.

M Singh, M Zhang, S Rathnayake, R Hanner, MG. Corradini. 2023. Applying fluorescence fingerprints for the detection of adulteration in maple syrup. 1st International Conference on Digital Innovation in Agri-Food. Guelph, ON, Canada.

M Singh, M Zhang, S Rathnayake, R. Hanner, MG. Corradini. 2023. Utilizing fluorescence fingerprints for enhanced detection of maple syrup adulteration. CIFST 2023. London, ON, Canada.

APPENDIX 3:
KNOWLEDGE TRANSFER

2023   'Smart vertical farm to address accessible fresh food production for health inequities in Northern Manitoba'. The Days for Girls National Conference, Winnipeg, Sept 8 - 10, 2023

2023 'Sustainable solutions for Northern Food Systems' FAFS Conversation Series, May 19th, 2022, https://www.youtube.com/watch?v=_sHngiHxKrA

2022   Smart farming in Northern Manitoba, ProBus Club Manitoba, May 17, 2022

"AI and digital ecosystem transformation for decarbonizing agri-food supply chains around the world." Hybrid international convergence-by-design/food half-day workshop, February 24 2023, McGill University, Montreal, McGill-SGI, Guelph-Lang, and SMART

"Precision convergence science and innovation: Agri-food & climate domains." Half-day work session, March 17th 2023, Toronto TCS Pace Port; MCCHE, Guelph-Lang, and SMART

"Bridging and connecting metrics, standards, data and model for real-world impact at scale," Hybrid international convergence-by-design/food one-day workshop, June 5th 2023 Guelph, Guelph University, Lang, MCCHE, SMART

"Building strategic science, technology, and investment bridges for a world reset on convergence economy through green ag tech and protein transition," Hybrid international convergence-by-design/food one-day workshop, June 9th 2023, Toronto TCS Pace Port; MCCHE, Guelph-Lang, and SMART

"Ontology for sustainability and policy implementation: from data to insight, investment and impact through common language, metrics and standards in distributed architecture," Hybrid international convergence-by-design/food one-day workshop, July 21st 2023, Mcgill-Montreal, MCCHE, Guelph-Lang, TCS, & SMART

"Accelerating plant-based agri-food innovation with artificial Intelligence," Invited panel, Montreal, April 25th 2023, Protein-Industry Canada half-day workshop.

"Advancing technological infrastructure for green agri-food innovation as entry point towards convergence economy," Invited panel, June 8 2023, Guelph University, Digital innovation in agri-food international conference

"Food convergence innovation: A digital-powered, person-centered, ecosystem-building approach to achieving economically viable enterprises and sector sustainability," October 27th 2023, Invited panel, Inaugural SME roundtable, McGill Desautels Faculty of Management SustainableGrowth Initiative (SGI).

2022: Health Report 2.0 on Smart Vertical Farm for Health
"https://www.youtube.com/watch?v=C56yHgOERAI
2024 Une solution d'avenir pour nos cultures? La Liberte Jan 24, 2024

LEVERAGING

The SMART Training Platform has supported network investigators through the leveraging of our training. In our first three years, **we have provided 11 letters of support and 3 have been successfully funded.**

ACKNOWLEDGEMENTS: