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## Hamilton Health Innovation Check-up: Meeting Minutes

January 2023

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### STANDING AGENDA TOPICS:

- **Guest Speaker Discussion:** insights around the experience and expertise of an invited speaker, focusing on a subject that may be of interest to the broader community
- **Communicate:** share recent successes, upcoming events, innovation pipeline and new products, health innovation trends, etc.
- **Collaborate & Accelerate:** welcome new members to community, partnership opportunities, discover programming and resources available to the community, discuss market gaps and challenges, learn about potential funding opportunities, new RFPs issued, etc.

Facilitator & Note Taker  
Virtual Location

Alex Muggah, Director, Synapse Consortium  
Join Zoom Meeting: <https://zoom.us/j/405351918>  
Dial in: +1-647-558-0588,,405351918#  
Register here:  
<https://us02web.zoom.us/meeting/register/uZQodOyppzoiQnRwfvVuEJtEMUpKPUZPzg>

**Next Monthly Check-up:** February 27<sup>th</sup> 9:00 – 10:00am | McMaster Innovation Park (via Zoom)  
Please sign up to our [mailing list](#) to receive meeting minutes and other important updates.

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Finding collaborative partners for health companies and researchers can be difficult. Synapse has created the [Hamilton Health Ecosystem Directory](#) and the [Health Innovation Partnership Portal](#) (HIPP) to facilitate finding new partners within Canada's leading health research and educational ecosystem located in in Hamilton, Ontario.

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Minutes for our monthly check-up meetings are not published and are for reference purposes only. We do our best to ensure all information is accurately portrayed, and that no privileged/private information is inappropriately disclosed. Past meeting minutes can be access through a public Dropbox, using the following [link](#).

For additional information on any subject, to contact a presenter directly, or should you have an adjustment to make to the notes made here, please contact: [Alex.Muggah@SynapseConsortium.com](mailto:Alex.Muggah@SynapseConsortium.com). Updates will be reflected in a revised version of the monthly minutes.

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As a result of the COVID-19, all in-person conferences and meetings have been cancelled. We are trying to track down events that will be held virtually and will try to keep our calendar up to date.

If you have an event that you would like listed here, please contact us at: [info@synapseconsortium.com](mailto:info@synapseconsortium.com)

**Hamilton Health Innovation: Calendar Highlights**

[Check out Synapse's online calendar](#)

**February**

- Feb 2: [Funding Opportunities For Your Life Science Start-Up with OCI](#) (Innovation Factory)
- Feb 8-10: [Investment Summit 2023](#) (OBIO)
- Feb 9: [Monthly FemTech Roundtable](#) (Femtech Canada)
- Feb 16: [LSO Breakfast Series: Ontario Needs A Rare Disease Strategy](#) (LSO)
- Feb 17: [Women's Entrepreneurship Program](#) (Institute for Biomedical Entrepreneurship & OBIO)
- Feb 23: [Regent Debate: Competition will Save Canada's Broken Healthcare System](#) (CD Howe)
- Feb 23: [Medtech Ecosystem Offerings | Virtual Event](#) (Communitech)
- Feb 23: [LSO Breakfast Series: Leverage Industry-Academic Partnerships](#) (LSO)
- Feb 27: [Hamilton Health Check-up](#) (Synapse Consortium)

**March & Beyond**

- Mar 2: [Life Sciences London Monthly Meeting](#) (Life Sciences London)
- Mar 22: [10<sup>th</sup> Annual Synapse Life Sciences Pitch Competition](#) (Innovation Factory)
- Mar 27: [Hamilton Health Check-up](#) (Synapse Consortium)
- Apr 13: [Monthly FemTech Roundtable](#) (Femtech Canada)
- Apr 17-21: [HIMSS Global Health Conference & Exhibition](#) (HIMSS)
- Apr 25-26: [Healthcare Investor Conference 2023](#) (BloomBurton)
- Jun 13-15: [Canada SynBio Conference](#) (Ontario Genomics)

Looking to engage the Hamilton Health Ecosystem?



**SOPHIE**  
Southern Ontario Pharmaceutical  
& Health Innovation Ecosystem

In partnership with Innovation Factory and Synapse Consortium partners, leverage up to \$100,000 to work directly with an academic or hospital partner in the Hamilton ecosystem. Funding will support collaborative projects for Ontario-based life science firms requiring clinical/research expertise, evidence, or data to commercialize their innovation. Learn more about SOPHIE [here](#)



**HEALTHI**  
Hamilton Ecosystem to Accelerate and  
Leverage Trials of Health Innovation

Leverage up to \$15,000 in funding to work directly with the Research Administration groups at Hamilton Health Sciences or The Research Institute at St. Joe's Hamilton to create the pre-trial protocols and documents required to undertake a commercialization project or clinical trial in one of Canada's leading research hospitals. Learn more about HEALTHI [here](#)

Time allotted | 30 Minutes

Topic: **Guest Speaker Discussion**

Insights around the experience and expertise of an invited speaker, focusing on a subject that may be of interest to the broader community

Guest Speaker Discussion
<p>Guest Speaker(s):</p> <ul style="list-style-type: none"><li>• <a href="#">Ron Galaev</a>, Founder &amp; CEO <a href="#">EmergConnect</a> [presentation slides available from Andy upon request]</li></ul>
<p><b>Discussion</b> <i>[the following is a synopsis of the discussion, and has been lightly edited for length and clarity]</i></p> <p><u>EmergConnect: Intro</u></p> <p>My name is Ron and I am the founder and CEO of <a href="#">EmergConnect</a>. I will dive into what we do at EmergConnect, our company history, and how the Hamilton health ecosystem has played a role in our progress so far.</p> <p>It is not a surprise to anybody that emergency departments in Canada are struggling. There are not enough nurses or physicians, and wait times are increasing for patients. Patient navigation is a challenge in Canada. Individuals may not know what healthcare services are available to them, leading them to end up in emergency departments. This leads to overcrowding and discomfort. There have also been significant healthcare staffing shortages.</p> <p>It is problem after problem and standard solutions, such as hiring more healthcare workers, are unavailable. At EmergConnect, we are aim to solve these problems from a different angle using a digital health solution.</p> <p><u>A McMaster Health Venture Success Story</u></p> <p>I started EmergConnect in the Health Venture Program at McMaster University in the third year of my undergraduate career. My initial idea was to unify all healthcare records using digital health. However, I quickly pivoted after realizing it was probably impossible to do this as an individual, and even harder as a student. My second idea was a platform that allowed patients to wait at home before coming to the emergency department. Over time, and through many regulatory approval processes, both by the government and individual hospitals, this idea has evolved.</p> <p><u>EmergConnect - A Digital Front Door</u></p> <p>Our solution at EmergConnect provides a digital front door for patient self-assessment, registration, and individualized wait time prediction. The grander vision at EmergConnect is to take patients and their data and use AI to direct them to the care services that best suit their needs, while facilitating data automation for clinicians and providing feedback to the patients in the form of wait times. Essentially, we use end-to-end patient engagement and clinician engagement to create a more seamless health ecosystem.</p> <p>The patient journey with EmergConnect is simple. Patients engage with EmergConnect and may go directly to an emergency department or seek alternative care options based on EmergConnect's response. When they arrive at an emergency department, the patient will interact with a triage nurse who confirms all their information. Then with one click, the triage nurse can quickly populate the patient's data into their existing hospital systems using EmergConnect, and the patient will then wait to see a physician.</p>

## Guest Speaker Discussion

Our company spent a long time working with Ontario health and the Canadian government on how nurses interact with our system within the current clinical frameworks. While it may not seem like a big win for one patient to go through triage a little more quickly; when hospitals see 300 patients daily, EmergConnect can save a significant amount of time for both patients and practitioners.

### How EmergConnect Works

It is a simple mobile patient intake and triage platform that uses research-validated and machine-learning systems, trained on some of the largest datasets of their kind in the world. Using these systems we can run a variety of predictive analysis (e.g., triage analysis, triage scores, wait times, and more). We then upload all the patient data and our predictions into the hospital system(s) seamlessly through a channel through which clinicians confirm the information.

EmergConnect offers automated patient registration, reliable remote triage data collection, individualized wait time predictions using AI, clinical redirection, passive and active load leveling, and seamless electronic medical records (EMR) integration.

Our patient-focused goals at EmergConnect are to improve patient satisfaction, access to care, and timeliness of care while reducing patient stress and the risk of infectious disease spread. For healthcare providers, our focus is on automation, efficiency improvement, and cost savings. By automating time-consuming clerical tasks and data input, we save clinicians valuable time. We also provide reliable triage for virtual care, help redirect patients to less expensive care while decreasing overall wait times, and help hospitals reduce their market spending.

As many can imagine, risk management is very important for healthcare companies, and EmergConnect has dozens of risk-mitigation techniques. One technique is redirecting high-risk patients away from the system. If someone's possibly having a stroke, EmergConnect is not for them. We also predict minimum triage scores, have an unambiguous triage process, offer automated triage reassessment, and have significant data security and privacy in place. In fact, we don't store identifiable data, such as your name, health card number, or date of birth, once your visit is complete.

### Momentum & Company Traction

EmergConnect is a venture-backed company. We are about two and a half years old and have raised approximately \$750,000 to date. Our last round of funding was led by venture capital, and some of the funding came from Maple Leaf Angels.

We are launching our product next month at William Osler Health System, followed by The Ottawa Hospital, then St. Joseph's Healthcare Hamilton, and later Sunnybrook. The product launch plan will serve as a Canada-wide clinical trial to validate the use of the system. We are collecting the metrics required to demonstrate EmergConnect's positive impact. Ultimately, we hope to move into commercialization leveraging the support of the CANHealth Network.

### Why are hospitals partnering with EmergConnect?

Why are we special, and why do hospitals want to work with us? Working with hospitals is notoriously challenging. However, we have cracked the code regarding three key things that hospitals and patients care about.

First is digital integration. Our data lands exactly where it needs to be for the hospital in the way they want to see it. Second, EmergConnect provides unique patient benefits. By predicting and communicating wait times, we have

### Guest Speaker Discussion

created an engagement platform that patients will want to use, not simply a tool to collect their data. Patients receive benefits when they input their data. Finally, EmergConnect integrates seamlessly into the hospital workflow without requiring much change. Using AI and safety backup mechanisms, EmergConnect predicts patient risk as they wait for triage to ensure that patients with more severe medical conditions receive care faster.

Regulatory approval at a hospital begins with the external development of the project intention, followed by identifying a clinical champion or a person that will push your project throughout the hospital. You then develop a research protocol, which you submit to the research ethics board for approval. And following research ethics board approval, you have to get approved by every hospital department that assesses how the technology directly impacts their department to ensure that it does not cost them significant time or money.

To obtain approval from the provincial government, we had to focus on how EmergConnect fits into the general nursing framework. Over many months, we met with various healthcare teams to show them our product and made several changes to ensure that EmergConnect meets their clinical requirements on the provincial level.

#### Reflecting on Today and Looking Forward

So what does EmergConnect look like today? Phase one of the product launch will be an in-emergency department use for patients with data transfer automation for nurses. When patients arrive at the hospital, they might wait an hour or two for a triage assessment. During that time, they can take two to five minutes to use EmergConnect and receive an individualized wait time prediction. Following a review from nursing staff, the patient information inputted into EmergConnect is seamlessly transferred into the hospital data system.

Phase two of the product launch will involve using EmergConnect at home. Patients can see all the hospitals near them and their approximate wait times and will travel to the hospital after submitting EmergConnect.

In phase 3, we want to get to a point where patients self-direct to various care solutions in their healthcare system. In Hamilton, that might be a primary care provider, St. Joseph's Virtual Care, or St. Joseph's Emergency Department, depending on the severity of the medical condition.

So what does the future look like for EmergConnect? Outside of our immediate commercialization plans, we are involved in various projects across different hospital systems to predict the length of stay, required clinical tests, and impact on patient admissions (e.g., we are conducting a large chest pain study in Ottawa).

Over the next ten years, our ultimate vision is for EmergConnect to become a centralized, digitally-enabled, same-day, emergent care platform for all patients.

#### Questions & Answers

*Question: Is your company raising additional funds soon?*

Answer: We are raising a bridge round this year. Predominantly, our current investors will be buying into this round, so there will not be a significant valuation bump.

*Question: Can you comment on your IP strategy?*

Answer: We hope to patent our machine learning systems in the future. However, for now, our advantage is that machine learning systems aren't easily replicable. We collected over 4.5 million data points from four hospitals to

### Guest Speaker Discussion

train these systems. It would be hard for someone to reverse-engineer our application. Ultimately, I think we will get to a patent strategy, but currently, it is just trade secrets and copyrights to various elements.

*Question: What is the percentage of people going to emergency departments with non-urgent cases, and do you envision them using EmergConnect in their homes to locate the appropriate care services?*

Answer: Our data shows that between 40% to 60% of patients in the emergency department could have received care elsewhere. However, many individuals in Canada do not have a family doctor they can visit. I hope that in the future EmergConnect becomes one of the first tools people turn to determine what kind of healthcare services are best for them, whether at an emergency department, a walk-in clinic, or through virtual care.

*Question: How are you rating patient experience and communicating this information back to hospitals?*

Answer: For reporting, we are currently running it as a clinical trial, approved by four research ethics boards. We have a robust process for sending out a survey to patients after using EmergConnect. We then report the survey results to the hospital in the context of the research study.

*Question: What is the most surprising or non intuitive element that came out of the AI engine?*

Answer: The risk stratification part was non-intuitive. We had to do a lot of work with clinical experts on how EmergConnect fits in the clinical landscape. The most non-intuitive thing was that we were training our machine learning systems on real data. Ultimately, the gold standard is predicting how humans perform risk assignment.

A patient might be assigned different triage scores. To evaluate this issue in our machine learning system, we had to create hyper-tuned parameters to make safer predictions in ambiguous cases. The most non-intuitive thing was how we take human data and take something that people assign values to almost arbitrarily and make accurate predictions.

*Question: What is your commercial strategy?*

Answer: Our commercial strategy focuses on the per unit cost savings of an individual clinician that is using EmergConnect. If a hospital, by principle, needs 10 triage nurses, they usually have less and cannot hire more. If we have high-value nurses using EmergConnect and spending less time on each individual patient, that means that each individual patient ultimately costs the hospital less time.

In our pre-pilot testing, we found that it can take up to 10 to 15 minutes to fill out all that patient information. When you are in the hospital, the nurses are constantly typing. By using EmergConnect, nurses are happier because they are typing less. Moreover, patients are happier because they are seen by nurses quicker, and that is the real hospital value.

*Question: What issues have you learned about within the healthcare system that you think can best be solved with a technological solution?*

Answer: The easiest solution would be to allocate an extra 2 billion dollars to our healthcare budget to hire more nurses. However, money simply is not there and neither are nurses who can be quickly trained to do triage, a highly-skilled task. However, part of triaging is data input. Nurses could spend time they are doing data input, and instead be thinking critically and doing important clinical work. The healthcare system should be in step with the times we are in. Healthcare is far behind on deployed technology solutions. Even if there are more nurses, patients want to feel that technology is being leveraged. This is one reason why many physicians have been interested in working with EmergConnect; they see the need to catch up with the times.

Time allotted | 15 Minutes

Topic: **Communicate**

Discussion	Presenter
<p><a href="#">Synapse Pitch Competition Announces its 2023 Finalists</a></p> <p>Ontario's premier life science competition is officially underway as finalists prepare their commercialization plans, investor pitches and participate in various training &amp; networking opportunities to grow their business.</p> <p>The <a href="#">Synapse Life Science Competition</a> is designed to help move some of the most innovative life science products and services out of the lab and into the market, by pairing up life science innovators with business and entrepreneurship students. Come meet the 15 finalists, and hear the top 3 pitch their ideas on stage for the chance to win cash and in-kind resources.</p> <p>Register to join the 10<sup>th</sup> annual competition <a href="#">here</a></p>	<p>Kaitlyn Spivak (Innovation Factory)</p>
<p><a href="#">Government of Canada announces \$39M Hamilton-led clinical trials consortium (ACT), and \$92M for national training platforms and research projects to improve the health of Canadians</a></p> <p>As part of Canada's Biomanufacturing and Life Sciences Strategy (BLSS), the Canadian Institutes of Health Research (CIHR) Clinical Trials Fund (CTF) will be foundational in ensuring that Canadians are well served by a national clinical trials network that fosters all aspects of therapeutics development, from discovery through to delivery. It will be crucial to preparedness for future pandemics or other health emergencies and to grow a strong life sciences sector.</p> <p>The Accelerating Clinical Trials Consortium, led by Dr. PJ Devereaux (Population Health Research Institute of McMaster University and Hamilton Health Sciences) along with hundreds of researchers from across the country, is expanding existing clinical trial networks and helping to create new networks that will improve collaboration, knowledge sharing, efficiency, quality, and the number of clinical trials in Canada. This Pan-Canadian consortium is receiving \$39M for its activities.</p> <p>Seven training platforms are receiving a combined investment of over \$32M to train a new generation of scientists and researchers in such specialties as biostatistics, stroke research, behavioural change, and the general practice of clinical research. One of them is the Canadian Consortium of Clinical Trial Training platform. This collaborative initiative led by Dr. Jean Bourbeau (Research Institute of the McGill University Health Centre) is addressing the critical need for training and mentoring of clinical research professionals to fill gaps across our public institutions and biotechnology industries.</p> <p>Approximately \$60M is being awarded to 22 projects to fund clinical trial phases, designs, and objectives that align with the priorities of the BLSS.</p> <p>Read the full release <a href="#">here</a></p>	<p>Alex Muggah (Synapse)</p>

Discussion	Presenter
<p><a href="#">McMaster University researchers receive \$61 million from CIHR to advance health research</a></p> <p>Seven McMaster-led research projects have received a total of \$61 million from the Canadian Institutes of Health Research (CIHR) to advance medical research, training and innovation.</p> <p>The announcement was made at McMaster by Filomena Tassi, MP for Hamilton West-Ancaster-Dundas and minister responsible for the Federal Economic Development Agency for Southern Ontario, as part of CIHR’s Clinical Trials funding initiative.</p> <p>The Clinical Trials Fund is designed to enhance Canada’s clinical trials ecosystem from discovery to implementation.</p> <p>The Pan-Canadian Accelerating Clinical Trials Consortium (ACT) — co-led by McMaster professor and Senior Scientist at the Population Health Research Institute (PHRI), P.J. Devereaux — received \$39 million to expand its clinical trial networks, support clinical trial units and improve collaboration and knowledge sharing, as well as the number, efficiency and quality of clinical trials in Canada. Hosted at PHRI, ACT will build Canada’s clinical trial capacity and will support hundreds of researchers across the country, said Devereaux.</p> <p>Read the full article <a href="#">here</a></p>	
<p><a href="#">New inhaled COVID-19 vaccine receives more than \$8M for next stage of human trials</a></p> <p>Researchers at McMaster University are receiving more than \$8 million in funding from the Canadian Institutes for Health Research (CIHR), enabling them to proceed with Phase 2 human trials for a next-generation, aerosol-borne COVID-19 vaccine.</p> <p>Filomena Tassi, MP for Hamilton West-Ancaster-Dundas and minister responsible for the Federal Economic Development Agency for Southern Ontario, made the announcement at McMaster, as part of CIHR’s Clinical Trials funding initiative, involving seven projects at the university.</p> <p>The new inhaled vaccine, with the potential to induce robust mucosal immunity against strains of SARS-CoV-2, including Omicron and other variants of concern, is entirely Canadian, from design and biomanufacturing at McMaster’s Robert E. Fitzhenry Vector Lab to pre-clinical and clinical testing conducted by a team of experts in infectious disease and immunology.</p> <p>Pre-clinical trials have shown the inhaled aerosol vaccine is far more effective at inducing protective immune responses than traditional injections, partly because it targets the lungs and upper airways where viruses first enter the body, providing long-lasting protection against respiratory infections.</p> <p>Read the full article <a href="#">here</a></p>	<p>Brian Lichty (McMaster University)</p>
<p><a href="#">OmniaBio expands manufacturing footprint with second Hamilton location</a></p> <p>OmniaBio has expanded its footprint by adding a new process and analytical development lab space at the McMaster University Medical Centre (MUMC). The new facility is now operational.</p> <p>"This expansion is the latest in a series of exciting milestones for OmniaBio," says Mitchel Sivilotti, CEO of OmniaBio Inc. "Acquiring additional lab space, ahead of the opening of our</p>	<p>Stacey Johnson (OmniaBio)</p>



Discussion	Presenter
<p>commercial facility in 2024, will enable us to better support our growing portfolio of customers, and accelerate their process and analytical development initiatives. We are adding more than 20 highly experienced cell and gene therapy scientists to advance programs from early clinical through to Phase III.”</p> <p>OmniaBio works as one organization with the teams at CCRM – its parent company. Over the last seven years, CCRM has become recognized as a leader in process and analytical development, and Good Manufacturing Practices (GMP) operations, with expertise in three focused platforms: induced pluripotent stem cells (iPSCs), immunotherapy and lentiviral vectors (LVV). OmniaBio’s expanded lab space will be complementary to the ongoing process and analytical development projects already taking place at CCRM’s site in Toronto, Ontario.</p> <p>Read the full press release <a href="#">here</a></p>	
<p><a href="#">Ontario Government Success Stories: OmniaBio profiled as they shape the future of regenerative medicine</a></p> <p>Since the 1963 discovery of stem cells by two University of Toronto researchers, Drs. Ernest McCulloch and James Till, Ontario has been at the forefront of regenerative medicine discovery and development. Dr. Peter Zandstra C.M., Chief Scientific Officer, and Dr. Michael May, President and Chief Executive Officer of CCRM, recognized a need to translate this pipeline of discovery into products, leading to the founding of the organization in 2011.</p> <p>“Working with our partners, we established a capital-efficient and collaborative commercialization model to make that happen,” says May. “Today, CCRM has a global client base, and our team supports the commercialization of regenerative medicine-based technologies and cell and gene therapies with strategic funding, dedicated infrastructure and specialized business and scientific expertise.”</p> <p>Those commercialization capabilities took a giant leap forward in March 2022 with the announcement of the launch of OmniaBio Inc., a biomanufacturing operation that extended from CCRM. OmniaBio will be the anchor tenant in a new biomanufacturing campus being built in Hamilton’s McMaster Innovation Park.</p> <p>The facility is set to be Canada’s largest CDMO specializing in cell and gene therapies. “OmniaBio Inc. will be a game-changer for Ontario and Canada,” says May. “It will provide missing infrastructure and expertise to allow Canadian cell and gene companies to remain here while also attracting foreign companies. Cell and gene therapy is Canada’s opportunity to be a global leader in the life sciences.”</p> <p>Read the full profile <a href="#">here</a></p>	<p>Alex Muggah (Synapse)</p>
<p><a href="#">Fero Receives Strategic Investment From Fengate Asset Management and LiUNA Pension Fund of Central and Eastern Canada</a></p> <p>Fero International, a provider of cutting edge, SMART modular solutions across multiple sectors including healthcare, disaster relief, housing, mining and defence, has received a strategic early stage business investment from Fengate Asset Management, on behalf of the LiUNA Pension Fund of Central and Eastern Canada.</p>	<p>Sabrina Fiorellino (Fero International)</p>

Discussion	Presenter
<p>The closing of this investment will permit Fero to rapidly scale its business by providing the funds needed to quickly commercialize its products as well as secure the required talent.</p> <p>"We are thrilled to welcome LPFCEC and Fengate as strategic investors in our company. This investment will assist with accelerating our ambitious growth strategy," said Sabrina Fiorellino, Fero's Chief Executive Officer. "The world needs innovative, cost-effective, practical solutions to quickly address major infrastructure challenges and constraints in healthcare, Indigenous and remote communities and areas hit hard by natural disasters, wars and other major crises. Having these resources will allow Fero to lead the way."</p> <p>Read the full press release <a href="#">here</a></p>	
<p><a href="#">Adapsyn Bioscience receives funding to discover novel therapeutics for tuberculosis</a></p> <p>Adapsyn Bioscience Inc., a chemical bioinformatics company that discovers novel drug-like small molecules, today announced that it has received funding from the Bill &amp; Melinda Gates Foundation to find novel therapeutics that target tuberculosis (TB). Globally, TB remains a leading cause of death from infectious disease, and factors such as a growing resistance to current drug therapies have created an urgent need for new treatments to combat its spread. Adapsyn's discovery platform integrates artificial intelligence and machine learning to identify and isolate novel drug-like metabolites from microbes for downstream evaluation and development. Adapsyn will utilize the full capabilities of its platform to identify novel small molecules that inhibit established and emerging targets in Mycobacterium tuberculosis, the causative agent of the disease, which will help fuel the development of next-generation anti-TB drugs. The company will collaborate with leaders in TB research on target selection, bioactivity testing, and target confirmation.</p>	<p>Andy Haigh (Adapsyn Bioscience)</p>
<p><a href="#">Access Canadian Bio-Cleantech Applied Research Network (CBARN) through Mohawk College</a></p> <p>The Canadian Bio-Cleantech Applied Research Network was launched in 2022 to support Canadian small- and medium-sized bio cleantech companies with applied research expertise.</p> <p>With the support of Fed-Dev Ontario, eligible companies can apply for up to 70% project funding to access college expertise and equipment. The purpose of the funding is to help industry displace conventional industry activities that are highly polluting with newer and more sustainable approaches</p> <p>Possible projects can include: the development/improvement of an internal process or prototyping of a new technology or solution, or validation and testing of a new technology or solution.</p> <p>Projects are typically 6-12 months in duration. CBARN will cover up to 70% of eligible project costs. Industry contributions start at \$10,000 Companies must provide 1:1 in-kind match. Project costs include access to research team, student staff, supplies, and equipment.</p> <p>Contact Andrea Johnson (<a href="mailto:andrea.johnson4@mohawkcollege.ca">andrea.johnson4@mohawkcollege.ca</a>) to learn more</p>	<p>Andrea Johnson (Mohawk College)</p>
<p><a href="#">McMaster eHealth MSc: Internship recruitment dates for the upcoming work term: May – Dec. 2023 (now accepting job postings!)</a></p> <p>McMaster's eHealth MSc program is a unique 2-year graduate program that immerses students in the world of digital health informatics. It is offered through a collaboration of 3 McMaster</p>	<p>Margaret Leyland (McMaster)</p>

Discussion	Presenter
<p>Faculties and Schools – the Faculty of Health Sciences, the Faculty of Engineering and the DeGroot School of Business.</p> <p>The eHealth MSc builds on theoretical foundations in healthcare, information technology and business. Our 8-month internship offers firsthand perspective on how these fields intersect in the transformation of modern healthcare delivery and management.</p> <p>To learn more, contact Margaret Leyland (<a href="mailto:leylanma@mcmaster.ca">leylanma@mcmaster.ca</a>)</p>	
<p><a href="#">Hamilton Based Allarta Evolving a Novel Approach to Cell-Based Therapies with Hamilton’s Renowned Medical Innovation Ecosystem</a></p> <p>For patients suffering from diseases where their bodies fail to produce a specific enzyme or hormone, the effect on their health can be devastating. To make a bad situation worse, treatment options are limited. Cell-based therapies, based on the idea that cells can be trained to express substances that patients lack, offer hope. If these cells can be successfully transplanted, they can provide therapeutic benefits for a long time. However, a roadblock still exists due to the body’s natural immune response, which sees these helpful cells as foreign and destroys them. Allarta’s platform technology is a solution that physically protects therapeutic cells so patients can benefit from their treatment potential.</p> <p>With strong early pre-clinical data, the company needed additional support to test and validate its solution. The founders turned to the Southern Ontario Pharmaceutical and Health Innovation Ecosystem (SOPHIE) program because they knew their innovation could significantly impact those suffering from a wide range of disorders, including metabolic diseases (e.g., diabetes), lysosomal disorders, rare blood disorders (e.g., hemophilia), and neurodegenerative disorders.</p> <p>Ultimately, Allarta hopes its SOPHIE project will help the co-founders reach their goal of licensing their technology to larger biopharma partners and enabling their technology to treat patients in hospitals and private facilities.</p> <p>Read the full profile <a href="#">here</a></p>	<p>Bhavisha Morphet (Innovation Factory)</p>
<p><a href="#">Graduate students, faculty earn McMaster top-tier research ranking</a></p> <p>McMaster University continues to rank among Canada’s top research universities in the annual ranking published by Research Infosource.</p> <p>According to the 2022 rankings released today, McMaster placed second in both graduate student research intensity — averaging \$74,200 per graduate student — and faculty research intensity, averaging \$419,000 per faculty member.</p> <p>With a total sponsored research income of \$374.6 million — a 6 per-cent increase from last year — McMaster maintains its third-place position for Research University of the Year among medical/doctoral schools, determined by research income and intensity, as well as the number, intensity and impact of publications in leading journals.</p>	<p>Gay Yuyitung (McMaster Industry Liaison Office)</p>

Discussion	Presenter
<p>McMaster placed third in the corporate research income category – garnering nearly \$78.5 million in investments from the private sector, which accounts for more than 20 per cent of the university’s total research income.</p> <p>Read the full release <a href="#">here</a></p>	
<p><a href="#">Collaboration is Key for New Research VP at Hamilton Health Sciences</a></p> <p>A renowned burn surgeon and researcher left Toronto for Hamilton to establish a new burn research centre and serve as vice-president of research at Hamilton Health Sciences. Dr. Marc Jeschke, who is leading research into using stem cells and “printed” skin to treat burn patients, is also medical director of the burn unit at Hamilton General Hospital. It is one of just two burn centres in Ontario.</p> <p>Jeschke began his role at HHS in July. He is a professor of surgery at <a href="#">McMaster University</a> and in Hamilton, he has the opportunity to establish a new burn research program within the Thrombosis and <a href="#">Atherosclerosis Research Institute (TaARI)</a> of McMaster and HHS.</p> <p>As vice president of research, Jeschke is prioritizing building bridges and amplifying the identity of research at HHS and its impact in the medical world. He’ll focus on supporting existing research strengths and exploring new ones. “HHS is continuously in the top five research institutes in Canada. We want to further that reputation.”</p> <p>Read the full article <a href="#">here</a></p>	<p>Alex Muggah (Synapse)</p>
<p><a href="#">Boehringer Ingelheim and Hamilton’s Firestone Institute for Respiratory Health (FIRH) collaborating together to address gaps in care for patients with interstitial lung disease</a></p> <p>The CONNECT-ILD project will use innovative technology—Seamless MD—that enables remote patient management, peer-to-peer community support, patient education, and multi-disciplinary discussions to provide patients with another pathway to access the care they need.</p> <p>An estimated 18 to 32 per cent of patients with an ILD will have their condition evolve to a progressive fibrosing-ILD (PF-ILD), leading to respiratory failure and death within three to five years from diagnosis.<sup>1</sup> Regular monitoring is important for the early detection of patients with a progressive course of the disease.</p> <p>The collaboration uses the digital care journey platform—SeamlessMD—which was selected through a rigorous process from among 20 proposed solutions. The platform provides patients with reminders, evidence-based education, progress tracking, symptom management, and allows for remote patient monitoring for patients who are diagnosed with ILD. The platform, accessible via app and web, features both patient and physician portals. The goals of the program are continuous monitoring of patients at higher risk of poor outcomes, reduced waitlist by limiting the need for in-person visits, and improved experience for patients and physicians.</p> <p>Read the full article <a href="#">here</a></p>	<p>Pilar Iglesias (Boehringer Ingelheim)</p>
<p><a href="#">McMaster Engineering partners with Virtualware to introduce their first ever VR room in Canada</a></p> <p>The Faculty of Engineering has partnered with Virtualware to adopt and scale the award-winning VR enterprise platform VIROO®. This initiative will be inaugurated in early 2023 with the unveiling of a 100m2 custom-built immersive room at one of Canada’s most innovative</p>	<p>Alex Muggah (Synapse)</p>

Discussion	Presenter
<p>universities in the world, providing access to students, faculty, and businesses to push boundaries and explore the use of VR tools and technologies in the region.</p> <p>Leveraging each other’s strengths, the initial four-year partnership will foster initiatives to broadly facilitate access and promote the adoption of VR in education and research by blending physical and virtual workspaces.</p> <p>Virtualware and McMaster Engineering are committed to making a global impact not only in education, but also in the enterprise. This partnership will see them join forces to explore new options and forge ways to collaborate with nearby companies interested in leveraging this emerging technology.</p> <p>Read the full article <a href="#">here</a></p>	
<p><a href="#">Hamilton Health Sciences holds strong as a top Canadian research hospital</a></p> <p>Hamilton Health Sciences (HHS) has again been named among the top ten research hospitals in Canada. HHS ranked seventh in Canada’s Top 40 Research Hospitals. This list is considered the gold standard by research hospitals and is produced by Research Infosource Inc., an independent leading analyst of Canadian hospitals, universities, colleges and corporations. Each year, it releases results on the top 40 research hospitals in the country, based on total research spending from the previous fiscal. This ranking is based on the 2021 fiscal year.</p> <p>“HHS has maintained a ranking in the top 10 for the past decade, which identifies us as a leader in health research investment nationally and internationally.” says Dr. Marc Jeschke, HHS vice president of research and director of burns.</p>	<p>Ted Scott (HHS)</p>
<p><a href="#">St. Joe’s Ranking Continues to Climb Among Nation’s Top Research Hospitals</a></p> <p>We’re proud to see <a href="#">St. Joseph's Healthcare Hamilton</a> has moved ahead two spots in the annual ranking of research hospitals across Canada, according to metrics published today by Research Infosource.</p> <p>The online publication, "Canada's Top 40 Research Hospitals 2022," shows our hospital ranked 24th overall, up from 26th the previous year and 27th the year prior. This nationwide review includes data from academic hospitals of all sizes – large, medium, and small.</p> <p>We've also made steady progress in terms of researcher intensity, coming in 5th place in the medium-sized hospitals category (up from 10th place in 2018).</p>	<p>Sarah Howe (RSJH)</p>
<p><a href="#">Mohawk College continues to be a leader in applied research - national research rankings: Top-3 rankings for paid student researchers, total industry research income</a></p> <p>Reflecting the success of IDEAWORKS, the college’s applied research division, Mohawk College was ranked 12th in Canada, and 5th in Ontario, in the Research Infosource annual rankings for 2022. In two categories (the number of paid student researchers and total industry research income), Mohawk was ranked third in the country. Eleven years ago, when the college first expanded its applied research activities, it ranked 33rd in the country.</p> <p>In addition to its overall finish, Mohawk was considered among the top-ranked large colleges in Canada in three categories:</p>	<p>Cristina Gage (Mohawk College)</p>


Discussion	Presenter
<ul style="list-style-type: none"> <li>• 3rd - Paid Student Researchers – IDEAWORKS employed 134 students in applied research projects.</li> <li>• 3rd - Industry Research Income – Mohawk applied research projects raised more than \$1.9 million last year. (Industry grants and contracts represented 50% of total research income).</li> <li>• 4th - Research Partnerships – 134 partners collaborated with the college on applied research projects.</li> </ul>	
<p>The Marnix E. Heersink School of Biomedical Innovation and Entrepreneurship, with support from Michael G. DeGroot Health Innovation, Commercialization and Entrepreneurship, are pleased to announce The Clinic has been approved as a <a href="#">Mitacs</a> incubator.</p> <p>Startups enrolled in <a href="#">The Clinic's</a> programming now have access to <a href="#">Mitacs Accelerate Entrepreneur funds</a>. Accelerate Entrepreneur pays undergraduates, graduates, and postdoctoral fellows to grow their startups and get to market faster. This matching program provides \$15,000 per four-month internship with opportunities to scale up depending on the startup's needs.</p> <p><a href="#">Contact</a> the clinic for more information</p>	<p>Alex Muggah (Synapse)</p>
<p>In November of this past year, we closed a \$300k round led by CTR Capital, a Canadian-based VC firm whose funds are deployed strategically, for the purpose of raising human consciousness and expanding the scope of activities that can measurably improve world conditions. We are thrilled to have CTR Capital and the other strategic angels who joined the round be a part of our journey.</p>	<p>Cole Kirschner (AgeRate)</p>
<p>Business Benefits Finder - "In two minutes, get a tailored list of government programs and services for your business. From funding to advice, everything you need. All in one place."</p> <p>Click <a href="#">here</a> to learn more about Innovation Canada, and the services it offers</p>	<p>Nav Kaur (Innovation Canada)</p>
<p><a href="#">BDC launches \$500 million Thrive Venture Fund and Lab for Women</a></p> <p>BDC announced the launch of its \$500 million Thrive Venture Fund and Lab for Women during the Elevate Festival in Toronto. Building on the success of BDC Capital's Women in Technology (WIT) Venture Fund, launched in 2017, Thrive will be the largest investment platform of its kind in the world, supporting Canadian women-led businesses for them to grow and have a lasting impact on the economy.</p> <p>The Thrive platform is comprised of three distinct components, providing a comprehensive approach to addressing barriers faced by women, be it through direct early-stage investment, strategic investment in women-led and focused funds, or emerging models for providing equity investments for women-led businesses in the earliest stages of development, all while continuing to develop a more robust and sustainable ecosystem for all.</p> <p>Read the full release <a href="#">here</a></p>	<p>JP Bender (BDC)</p>

Discussion	Presenter
<p><a href="#">Hamilton By the Numbers</a></p> <p>With the start of the new year the Hamilton Economic Development team is pleased to bring you a new quarterly feature: Hamilton by the Numbers. This quick publication serves as the data companion to our quarterly Invest in Hamilton Newsletter.</p> <p>Four times a year we will provide you with an update on the essential data that tells the story of investment and employment in Hamilton. For example, With a total of 7,054 approved permits, the City of Hamilton reported total building permit values of \$1,856,371,962. These values make 2022's building permit values the second highest on record.</p> <p>This first issue is being released as the City of Hamilton and Workforce Planning Hamilton are collecting data for the Employer One Survey. This survey is our best method for gaining a Hamilton-specific context on business needs and concerns.</p> <p>Read more about Hamilton by the numbers <a href="#">here</a></p>	<p>Asmaa al-Hashimi (City of Hamilton)</p>
<p><a href="#">Women's Entrepreneurship Program (deadline Feb 17)</a></p> <p>We haven't finished the OBIO Investment Summit and we're already planning our next event! I'm writing to let you know that OBIO® Women in Health Initiative (WiHI) and the Institute for Biomedical Entrepreneurship (IBE) are proud to announce our Women's Entrepreneurship Program, a five-day Certificate Program to be held in Toronto that empowers participants with the skills to move their ideas from concept to market. The deadline for applications is February 17th.</p>	<p>Mary Argent-Katwala (OBIO)</p>
<p><a href="#">Velocity working with ACT - Federal government's largest ever clinical trial investment - to advance national Health Tech startups and improve Canadians' wellbeing</a></p> <p>Velocity will collaborate with the Accelerating Clinical Trials Consortium, backed by the newly established Pan-Canadian clinical trials consortium, which has received \$39 million in Canadian Institutes of Health Research (CIHR) funding. The grant will empower researchers, talent and Velocity startups to make a speedier impact in addressing real-life problems and improve the health of Canadians.</p> <p>The funding comes as part of a \$131 million dollar investment announced by the Honourable Filomena Tassi, Minister of the Federal Economic Development Agency for Southern Ontario, on behalf of the Honourable Jean-Yves Duclos, Minister of Health.</p> <p>In all, this new investment supports one clinical trials consortium, seven training platforms, and 22 research projects — Canada's largest-ever investment in clinical trials.</p> <p>Read the full press release <a href="#">here</a></p>	<p>Moazam Khan (Velocity)</p>


Time allotted | 15 Minutes

Topic: **Collaborate & Accelerate**

Partnership opportunities, programming and resources available to the community, market gaps and challenges, learn about potential funding opportunities, discuss new RFPs issued, etc.

Discussion	Presenter
<p><a href="#">Want to Connect with your Ecosystem: Check out the Synapse Health Ecosystem Directory</a></p> <p>Synapse has created a Director of +200 private- and public-sector organizations in the Hamilton (and regional) health innovation ecosystem which work alongside the Synapse Consortium to support of the commercialization of health innovation. Learn more about what others are up to, and identify potential collaborative partners at: <a href="http://www.synapseconsortium.com/directory">www.synapseconsortium.com/directory</a></p>	<p>Alex Muggah (Synapse)</p> 
<p><u>Engaging Mohawk College's IDEAWORKS</u></p> <p>IDEAWORKS projects in general (of which, MEDIC is one area) which was provided and may help with identifying if Mohawk College can support our companies with projects. This might be a refresher for some or all of us, but highlighting nonetheless:</p> <p>Tips for Innovation Factory Referrals to IDEAWORKS</p> <ul style="list-style-type: none"> <li>• Our four innovation centres (MEDIC for Digital Health, AMIC for 3D printing, EPIC for energy efficiency related projects and MTIC for Medical Technologies related challenges) are active during this time- but note that due to existing commitments, are often looking at projects one month to three months in the future.</li> <li>• Other <a href="#">areas of expertise</a> are on a case by case basis, especially this year, with a number of our faculty committed to teaching and revamping courses</li> <li>• The ideal applied research partner is one that is in the scaling stage; they have some revenue and can meet a lot of the funding agencies criteria for funding or want to self-fund a research project. Typically what we look for is 2+2; two years in business with two employees</li> <li>• We recommend working with us on projects that aren't mission critical but can help the company explore an innovative idea.</li> </ul> <p>What about start-ups?</p> <ul style="list-style-type: none"> <li>• If they require a few tips or advice, we can normally chat with them (or if there is a critical mass -like five or six companies in a space-, we can do a webinar type discussion).</li> <li>• They can see about the availability of capstone projects, where students generally work on projects for a four month period, for free, in order to get course credit. It may help with MVPs.</li> </ul> <p>Contact Andrea Johnson for more information: <a href="mailto:andrea.johnson4@mohawkcollege.ca">andrea.johnson4@mohawkcollege.ca</a></p>	<p>Andrea Johnson (Mohawk College)</p>
<p><a href="#">The CONNECTION - McMaster University Online Partnerships Portal!</a></p> <p><a href="#">The Connection</a> is a new program offered by McMaster's Office of Community Engagement (OCE) designed to facilitate online, mutually beneficial partnerships between campus and local Hamilton community organizations. As communities look for ways to adapt and rebuild in response to COVID-19 The Connection will make the process of addressing Hamilton community and University identified needs easier by providing online tools and resources. It's a way for everyone who sees themselves as part of a collective community-campus effort to connect and respond to COVID-19 locally</p>	<p>Gay Yuyitung (MILO)</p>



Discussion	Presenter
<p><a href="#">Collaborating with McMaster Institute for Infectious Disease Research (New Intake Form)</a></p> <p>In addition to our ongoing COVID-19 research initiatives at McMaster, the Michael G. DeGroot Institute for Infectious Disease Research is mobilizing its strong research community to assist Canadian researchers and businesses in their attempts to find solutions to the international crisis. The IIDR teams have the capacity to assist with the testing of anti-viral compounds and products, as well as the testing of products or devices aimed at sterilization. This includes new methods for sterilizing personal protective equipment. They are able to offer services in the following areas:</p> <ul style="list-style-type: none"> <li>• BSL2 cell culture infection with representative human coronaviruses;</li> <li>• Testing of methods or products that are designed to inactivate the virus;</li> <li>• Biochemical/enzyme studies with anti-viral agents.</li> </ul> <p>Cell culture and small animal models of SARS-CoV-2 infection can be performed in McMaster’s secure biosafety level 3 facility. Availability for BSL3 testing is very limited, and projects requiring this type of work will be screened and prioritized by an internal committee.</p> <p>If you have a product or innovation that you are interested in pursuing further and feel that we could be of assistance to you, please <a href="#">reach out to us through the online form</a>. Each project will be evaluated to determine if McMaster has the capabilities and capacity to perform the required testing.</p>	<p>Gay Yuyitung (MILO)</p>
<p><a href="#">Hamilton-based technologies available for licensing</a></p> <p>Each year researchers at McMaster, <a href="#">Hamilton Health Sciences</a>, and <a href="#">St. Joseph’s Healthcare Hamilton</a> make new discoveries that lead to new products, services, or process improvements to help companies expand their pipeline or increase their productivity. The business development team at <a href="#">MILO</a> is here to help you tap into and access these discoveries as efficiently as possible. MILO’s objective is to support effective transfer of these technologies to companies for social and economic benefit and enable the continued growth of research excellence at the institutions.</p> <p>Please contact <a href="#">Glen Crossley, Associate Director, Business Development and IP</a> or search the list to see some of the technologies currently available for licensing or further R&amp;D</p>	<p>Glen Crossley (MILO)</p>
<p><a href="#">Hamilton Innovation Partnership Portal</a></p> <p>Synapse has created the <a href="#">Hamilton Innovation Partnership Portal (HIPP)</a> to make the process simpler and more streamlined to find new partners within Canada’s leading health research and educational ecosystem. It is a way for companies to interact with the Hamilton community. A streamlined approach, to have Synapse represent everyone. We’ve set up an intake form for companies to direct request to the portal. Portal is online through the Synapse website: <a href="http://synapseconsortium.com/partner/">http://synapseconsortium.com/partner/</a></p>	<p>Alex Muggah (Synapse)</p> 
<p><a href="#">Submit Community Events on the Innovation Factory Calendar</a></p> <p>Our calendar is home to Innovation Factory workshops and networking events as well as events from the community which help support our local entrepreneurs and businesses. If you have an event which may a fit, please submit it and we will review it within five business days.</p>	<p>Annie Horton (Innovation Factory)</p>