Hamilton Health Innovation Check-up: Meeting Minutes

October 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	Alex Muggah, Director, Synapse Consortium
Virtual Location	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: November 27th 9:00 – 10:00am | McMaster Innovation Park (via Zoom)
Please sign up to our [mailing list](#) to receive meeting minutes and other important updates.

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.

Minutes for our monthly check-up meetings 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 [online](#).

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: info@SynapseConsortium.com

Hamilton Health Innovation: Calendar Highlights

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

November

- Nov 7: [Driving the Future of Digital Health](#) (Digital Health Canada)
- Nov 8: [2023 Digital Health Innovation Conference](#) (HIMSS Eastern Canada Chapter)
- Nov 8-9: [CTO 2023 Conference](#) (Clinical Trials Ontario)
- Nov 8-9: [HardTech Summit](#) (VentureLab)
- Nov 9: [Celebrating Women Innovators in Health and Life Sciences](#) (OBIO)
- Nov 9: [HardTech Pitch Competition](#) (VentureLab)
- Nov 13-16: [MEDICA Healthtech Conference](#) 2023 (MEDICAlliance)
- Nov 15: [Data Effect Toronto: Healthcare's AI Revolution](#) (CityAge)
- Nov 16: [Art at Seven Innovation](#) (Hamilton Technology Centre)
- Nov 22: [Wet Lab Spaces for Health Science Startups – Panel & Networking Event](#) (MaRS & H2i)
- Nov 27: [Hamilton Health Check-up](#) (Synapse Consortium)
- Nov 28: Celebration of Innovation & Entrepreneurship (McMaster University)
- Nov 29: [Bloom Burton Holiday Party](#) (Bloom Burton)
- Nov 30: [HaloHealth Live! XXXI – Toronto](#) (HaloHealth)
- Nov 30: [ATS Labs 2023 Demo Day](#) (ATS Labs)

December & Beyond

- Jan 8-10: [Biotech Showcase 2024](#) (EBD Group)
- Jan 29: [Hamilton Health Check-up](#) (Synapse Consortium)
- Feb: [Investment Summit 2024](#) (OBIO)
- Mar 11-15: [HIMSS Global Health Conference & Exhibition](#) (HIMSS)
- Apr 15: [Early-Stage Life Sciences Companies and Investors Networking Event in Toronto](#) (Mintz)
- Apr 16-17: [Bloom Burton Healthcare Investor Conference](#) (Bloom Burton & Co.)

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

Looking to engage the Hamilton Health Ecosystem?

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](#)

Ontario-based medical device companies are invited to apply and leverage up to $100,000 in matching funds to collaborate directly with a contract development and manufacturing organization to help build your manufacturing know-how and capacity in Canada. With [CAMEDA](#), we support firms in the later stages of commercialization looking to advance regulatory approvals, strengthen industrial design, and undertake initial batch manufacturing. Through Synapse, [CAMEDA](#) recipients also have access to the unique life science capabilities and research expertise of the Hamilton ecosystem and beyond.

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

Guest Speaker(s):

- Fergal Kerins, Founder & CEO, PreOperative Performance
  [Slides used during the presentation can be accessed here]

Discussion
[the following is a synopsis of the discussion, and has been lightly edited for length and clarity]

Introduction & Background

My name is Fergal Kerins, and I am the founder and CEO of PreOperative Performance. We are based in Toronto at the MaRS Discovery District and our mission is to validate magnetic resonance imaging (MRI) data. My background is as an organic chemist, having received a degree from University College Dublin. I joined my first startup in 2008, and shortly after that, a startup in the medical device space, which changed how I viewed my career.

For those with a background in organic chemistry, you'll often find yourself transforming one white compound into another white compound in various interesting ways without knowing what you're doing, why you're doing it, or what use or benefit it'll have. My world was turned upside down when I joined a startup, and I realized you can take a concept or an idea all the way through from the very beginning to the first prototype to the first product. And if it works out you can launch this product and sell it to customers.

When I joined my first medical device startup in 2013, the social benefit (or the social ROI) really appealed to me. There's no way back for me; I have to have opportunities that can be both a self-sustaining company, as well as possessing a strong social impact. Following my stint at a medical device company, I was a founding member of a nutraceutical company where I built the first product, co-invented foundational IP, and obtained a Health Canada Product License. After that I decided to go into business for myself with PreOperative Performance.

The Problem – A More Accurate MRI

MRI is an incredibly valuable imaging technique. Diffusion MRI, in particular, has been around since the 90s, allowing for imaging someone without the need for radiation. It's very different to CT; you do not need radiation, although you can use contrast media. MRI is a non-invasive way of imaging soft tissues of the body. It can be used for diagnosis, and surgical treatment planning. But the problem is that we not know if these images are actually accurate and true.

MRI has been increasing its use in all three major categories of people, children, adults, and the elderly. It's use grew ~11% per year between 2000-06 but has slowed down since then. This limitation is, in part, due to a lack of industry accepted ways to validate the accuracy of this type of imaging.

If you look at a diffusion image (or DTI) of the brain, it shows the connectivity of the entire brain – how all the different parts of the brain are connected to all the parts – and this is very important for clinicians planning a neurosurgery. In particular, surgeon's can avoid eloquent areas of the brain to ensure their patients do not have a deficit after surgery. If inaccurate information is used, permanent brain injury can happen. Imagine you're going for a surgery on your hands and the doctor gives you anaesthesia; when you wake up, you either have or do not have

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full use of your hand. Either way, you'll still be yourself, even if your hand does not work. But this is not the case with surgery for a neurological injury; the brain can't repair itself like muscles. It is a high-risk surgery, so information used to plan the surgery must be absolutely ironclad, otherwise your patient is at risk.

A Systemic Issue – Variance in MR Data

One of the issues with MRI imaging is the validation of MR data, and the variation that can occurs across different systems. Depending on whether you are scanned on a Philips system, a GE system, or a Siemens system in an ICU, the parameters of the scan can be different. This limits the ability of clinical teams to follow their patient's progress, and it can also be a limiting factor when it comes to performing multicenter research studies with large numbers of people.   This is compounded across the various conditions where changes in white matter occur, such as neurodegenerative diseases, traumatic brain injury, or neurooncology. I refer to this as the MRI data variance problem.

Various attempts have been made to solve this problem over the years, but not in a systematic way. One proxy that has been used for the last 30 years was the use of celery, or asparagus, to mimic human tissues. The channels that bring water to and from the ground – the xylem and the phloem – can be used to mimic brain tissue. The first time I heard of this, I realized there's an opportunity here. This is a problem that needs a much better solution.

Another way this problem is often resolved is with traveling subject studies. Research groups, colleges and hospitals will get their cheapest source of labor, often a research student or a graduate student, and have them travel to different sites performing MR scans on different systems. This can take a huge amount of time and expense, and doesn't solve the problem in a quantitative way. For example, one research project involving a traveling subject study took three people to 10 different centers, and it took 12 months to complete this traveling subject study.

PreOperative Performance - Solving MRI Data Variance

We have a better solution. We have created a quality control instrument that has been designed to mimic the human brain and its response to MR imaging. We can use this to take a measurement of the MR system's performance and know the truth. Our hardware product does not change over time, so it always gives the same measurement. It provides a consistent data set that can then be analyzed. If the results change, then something has changed with the MRI system.

Within our product, we can replicate different types of parameters, different structures, different types of diseases, and target structures and solutions that mimic imaging biomarker values that are referenced by clinicians when they diagnose a disease. Our proprietary methodology is quantifiable and repeatable; meaning we can make this product repeatedly and make multiple copies of the same units. This is the first product on the market that can validate the quality of diffusion tensor imaging data, which is the type of imaging used to visualize the structure of the brain

We have identified three companies that can do something similar, though PreOperative's solution is still differentiated. We're all trying to provide different ways with our technology to measure the performance of MR systems. None of our competitors has been a breakthrough success yet.

Journey From Idea to Market

In 2020 PreOperative Performance filed its first IP and in 2021 we received support from the Biomedical Zone at Toronto Metropolitan University to build our first prototype. By 2022, we had executed a pre-seed raise of $500k and built the next generation product with some additional functionalities. This year (2023) we decided to take up

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residency at MaRS. PreOperative Performance received support from IP Ontario, and through this program completed our National Phase IP Filings. We have received support from SOPHIE, Biomedical Zone, MaRS and OBIO as well.

Leveraging Innovation Factory's SOPHIE program allowed us to expand more quickly; allowing for collaborations with Professor Noseworthy and Norm Konyer at St. Joeseph's Healthcare Hamilton, with the help of Research Institute at St Joe's. We've now got our first publication; Professor Noseworthy presented a body of work at the European Society of MR in medicine and biology at the beginning of October. This work will also allow us to undertake a second IP filing, as well as attending the RSNA conference in the US.

SOPHIE has been a huge help in driving us forward, and it's also got us into a couple of rooms that we weren't expecting to be in. Last week, we presented our company to the Honorable Minister Tassi (FedDev). It was not a room I had expected to be in. This program has encouraged me to grow and present, positioning myself as a leader in this field.

Another development made possible by SOPHIE program is investments in our team so we can grow faster. PreOperative has added an engineer with a background in biomaterials for medical applications. She adds her experience to the advisors and contractors I work with, including Lithium Design Consulting, Professor Mike Noseworthy, and some experienced founders in neurology and the medical space.

Our intention is to go to market starting with researchers. We are engaging directly with them, not just building something and trying to impose it on them. Researchers in the field like Professor Mike Noseworthy – with whom we are working on a collaborative project at St. Joseph's Healthcare, Hamilton – need tools to solve their current research problems. Our technology has a specific focus on safer planning for neurological interventions as well as therapeutic monitoring and expanding the diagnostic capability of MR imaging. Through researchers, different and novel uses of our technology can appear in the literature, leading to organic referrals. The market response to date has been very positive. Our goal is to have the entire community working in this field know of us, seeking us out to use our product.

Wrapping Up

And with that, I'd like to thank you for your time and listening to me introduce PreOperative Performance to you. I'll leave you with this quote, which I've always loved from Dr. Henry Marsh. He is a neurosurgeon, and this is how he described neurosurgery. He says, "When push comes to shove, we can afford to lose an arm or a leg, but I am operating on people's thoughts and feelings… and if something goes wrong, I can destroy that person's character… forever." And this is why I'm doing what I'm doing. If we can give clinicians enabling tools so that they can diagnose conditions earlier, if they can plan safer neurosurgeries, this means better quality of life for patients, better careers for clinicians as well as lower costs for health care systems.

Questions & Answers

Question: Dr. Noseworthy, is there anything you want to add about your experience working with PreOperative Performance, or about their technology?

Answer (Dr. Mike Noseworthy): There are lots of standards in medical imaging, and it's absolutely critical to make sure the performance of any medical imaging system is functioning as it should. I've worked with all medical imaging, and I know the pros and cons of every technique. MRI's got fantastic tissue contrast and is by far the best in terms of the various things that can be done with an MRI scanner; such as diffusion imaging or diffusion tensor imaging. It's been around since 1995, but what has held it back is the lack of a standard to measure the

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system's performance, consistency, and reproducibility. It's been around so long and it has never really exploded and taken off, due to a lack of this standardization.

When I first met Fergal I was elated. Finally someone had come up with a solution to this problem that's been around for decades. I worked in this space, and I do a lot of very subtle assessments of brain damage that isn't apparent to the eye, event to long-standing neuroradiologists. We're using machine learning to find things that radiologists can't see. I've always wondered, are we looking at variability in the machine or are we looking at real injury in the brain? The standard that Fergal has developed is absolutely critical for our company, [TBIFinder](#), to go forward.

Everywhere around the world has been missing this standard. We have standards for resolution, geometric truth, and spectroscopy, you name it, but nothing for diffusion tensor imaging (DTI). It's been a long time coming, and this is a critical piece of equipment that I can see being a standard in any center that has an MRI scanner. In Canada there are ~450 MRI scanners, and there is a need for PreOperative's product for all of them.

Question: Most find it difficult enough to create a product and then figure out how to commercialize it. Convincing an entire industry that yours is the correct standard – is that something you would do through research or do you think you'll have to create some international standard/certification with a standard granting body? Who's going to provide the stamp of approval that to provide assurances that PreOperative Performance's product provide the standardization that Dr. Noseworthy was so excited about?

Answer: That's a big question, which I think about a lot. We've created a product platform with the ability to change configuration; I'm releasing multiple different types of products for different market verticals. Your question doesn't have a specific answer yet.

When we talk about validation, we're really talking about standard of care, and accreditation, and someone coming along and saying, "when performing a neurological procedure you always get a DTI image of the brain to plan the surgery given its high fidelity information." To get to that point, there are a number of different steps. First, we're engaging researchers and helping them solve their current research problems. Providing ground truth reference for MR imaging allows, for example, harmonizing or comparing data from across different systems. We can help researchers perform multicenter trial or create an objective control group for a study. Supporting breakthroughs in R&D gets us into the literature.

Creating a product and imposing it on someone simply just doesn't work. PreOperative wants to co-develop standards with the researchers, showcasing to the broader community of researchers about how it has been used. We're providing an enabling technology, a tool that didn't exist before, and it is the scientists and the clinicians who are using it to demonstrate, for example, what the nature and the extent of injuries is for our patients and plan a care plan for them that's personalized based on their needs, whether it be Alzheimer's or traumatic brain injury.

Question: Do you had any visual example saying here's an image of the brain, and this is what we see, but we can't tell the size of it. And then you use your device, and you compare back and that helps the person see what the difference is. I'm trying to imagine how you do that with your device?

Answer: So, there's a few things: the first point of all is, every time a scan happens, a lot of the parameters – hundreds of parameters can be chosen – get automatically set by the MRI machine. It's hard for the technologist who's running the machine to control all of them. Those parameters can effect the contrast, and the resolution of the resulting image. The other issue is MRI's create a huge magnetic field, and we rely field to be absolutely uniform to create consistent images. A big problem with MRI is when you put somebody inside they distort the homogeneity of that magnetic field. For those who have had an MRI, you'll hear knocks and bangs; that's the

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system (re)calibrating and trying to reestablish the homogeneity of the magnetic field. It doesn't make it perfect, but it's pretty good. Techniques like diffusion tensor imaging rely on that field homogeneity. Every time you run those pre-scans, or that calibration component to the scan, it's going to be slightly different. A technique like diffusion tensor imaging is really sensitive to homogeneity.

We've had subjects scanned on the same vendor, even on the same identical scanner, and we see subtle alterations in the image of their brain. The subject didn't change, they didn't have any injuries. It boils down to the calibration of the machine. And that's what the importance of this kind of a standard is all about.

Question (David Wright): How would you use the Phantom device on the MRI – do you recalibrate the machine each time before you scan a patient?

Answer: We could do it that way, but that would take a lot of time. Many standards we are scanned once in the morning so we know the MRI machine and its behavior. For large clinical trials (i.e., a drug trial), then this standard should be part of every scan that is performed – it's a standard that would be part of the protocol for the drug trial. If it's just routine quality assurance protocol for the machine, then I could see the Phantom being scanned once a day before using it on patients.

Question (Nehad Hirmiz): As someone with a biomedical imaging background, I appreciate having a good standard on the bench. My question is twofold: First is the utility of your calibration instrument and long-term studies and bringing diffusion MRI to long term studies/clinical trials. Second, building procedures that make sure the standard itself remains constant throughout. Given that clinics are chaotic and hectic, have you thought about building a standard measuring procedure for the calibration device itself.

Answer: Our hardware instrument is a quality control tool. To be a quality assurance standard you would have to couple that with a protocol, and some metrics of success and failure. I'm not qualified to say what those are and impose them on a community. We want to co-create this. I want to present our hardware device, the Phantom, as a solution for this challenge. But the quality assurance standard would have to be something co-created with scientists and clinicians so that it is accepted by them.

Dr. Noseworthy has been interested in using the Phantom to run a protocol that he developed for medical imaging and for clinical work. Using a standard protocol on a community-based MRI scanner, the goal was to have a standard that works on any machine. First, we analyzed the Phantom's consistency across vendors as well as across time. This work was presented by in Switzerland a few weeks ago, showing that this standard is consistent over time and across vendors. Vendors all have unique, subtle differences, in the way they do these acquisitions. We wanted to make sure that it was standardizable and consistent across different machines. We were delighted to discover that it was.

Question: Can this standard be integrated within the manufacturing itself similar to a camera going through a colour correction standard before it is approved.

Answer: We can make sure that quality assurance accompanies every manufactured Phantom, with some standard operating procedure in terms of development. With respect to measurements across Siemens, Philips, GE – which are the big vendors for this type of scan – we can identify the values that indicate a certain error range, when scanned by the Phantom.

Time allotted | *15 Minutes*

Topic: **Communicate**

Discussion	Presenter
[2022 Synapse Cluster Report: A Year of Breakthroughs and Boundless Possibilities for Hamilton's Life Sciences Cluster](#) Synapse is pleased to announce the release of the 2022 Hamilton Life Science Cluster Report. The report highlights another year of remarkable growth and groundbreaking achievements in 2022. With transformational research and innovations fueling commercial endeavors, Hamilton continues to hold its reputation as a hub for life sciences innovation. The 2022 Cluster Report summarizes the dynamic growth of the Hamilton life sciences ecosystem, highlighting the integration of organizations that contribute to its vibrant community. Central to this development is Hamilton's exceptional research foundation. With institutions such as McMaster University at its helm and the significant contributions from Hamilton Health Sciences and St. Joseph's Healthcare Hamilton, the city remains a focal point for innovative breakthroughs in life sciences. Among the year's many standout stories include the arrival of OmniaBio Inc. which leveraged a $40 Million investment from the province of Ontario to build a 200,000-square-foot, $580-million facility, creating Canada's largest CDMO, exclusively manufacturing cell and gene therapy. Simultaneously, Hamilton-based, life sciences startup ToeFX celebrated serving 100 clinics nationwide, from British Columbia to Newfoundland. Read the 2022 Cluster Report [here](#). Discover more about Hamilton's life science cluster [here](#).	Annie Horton (Innovation Factory)
[Innovation Factory Expands Support for High-Potential Life Science Innovators by Introducing Medtech Manufacturing Funding Program – CAMEDA](#) With support from the Government of Canada, Innovation Factory launches the Canadian Medtech Alliance (CAMEDA) program. The Honourable Filomena Tassi, Minister for the Federal Economic Development Agency for Southern Ontario ([FedDev Ontario](#)), visited with Hamilton's business accelerator, Innovation Factory to celebrate the launch of the [Canadian Medtech Alliance (CAMEDA)](#) program. This program will help accelerate the commercialization of medical device innovations in southern Ontario, through a partnership with the accelerator and a total Government of Canada investment of over $7 million through FedDev Ontario, which includes $1 million for the CAMEDA program. The funding program is designed to create connections between Ontario-based medtech companies and specialized Contract Development and Manufacturing Organizations (CDMOs), provide a forum to access expertise and facilities, and build up domestic manufacturing capabilities. The program brings together key regional stakeholders who are committed to further strengthening the regional life science ecosystem, including [Cortex Design](#), [Inertia Product Development](#), [Ironstone Product Development](#), [Linamar](#) iHub, [MegaLab Group](#), [Microart Services](#), and [McMaster Manufacturing Research Institute (MMRI)](#). To read the full press release, click [here](#)	Alek Tirpan (Innovation Factory)

Discussion	Presenter
Insight Medbotics Announces World's First FDA-Cleared, MRI-Compatible Robot This milestone marks the start of a new phase for the company focused on raising Series A financing and advancing designs for our next robotic system. If you know of anyone who might be interested to participate in this next phase, please also feel free to connect me directly. Our flagship system, IGAR, is the first and only MRI-compatible robotics system to receive FDA 510(k) clearance. IGAR has been validated in 1.5 T and 3.0 T MRI environments. The technology is designed to make MRI easier to use for image-guidance by automatically executing the clinical plan with more accurate and precise control, providing opportunity to improve efficiency. We are actively developing IGAR's technology for other biopsies and targeted delivery of new intratumoral therapies.	Fazila Seker (Insight Medbotics)
Michael Heenan named President St. Joseph's Healthcare Hamilton St. Joseph's Health System President and CEO Elizabeth Buller, along with St. Joseph's Joint Boards of Governors Chair Barb Beaudoin, and with the approval of the Diocese of Hamilton, announces the appointment of Michael Heenan to the position of President of St. Joseph's Healthcare Hamilton (SJHH), effective November 27, 2023. Michael Heenan, PhD, brings 22 years of progressive executive leadership experience in large community and academic hospitals and at the Ontario Ministry of Health, including as Assistant Deputy Minister, Hospitals and Capital during the COVID-19 pandemic. Currently, he holds the position of Executive Vice-President of Strategy, Corporate Services and Chief People Services, at Humber River Health.	Sarah Howe (RSJH)
Attention start-ups! BioCreate Cohort 3 is now open! Ontario Genomics' BioCreate program is now open to small- and medium-sized enterprises (SMEs) in southern Ontario looking to commercialize genomics and engineering biology enabled products and/or technologies in the health, food and agriculture, and cleantech sectors at a Technology Readiness Level (TRL) of 4+. What does BioCreate do? We provide funding, access to mentorship and business support to help companies bring new products and technologies to market. Program highlights include: • Direct, non-repayable funding of $150,000. • Access to 18 months of intensive business mentorship and critical infrastructure provided by Ontario Genomics' strategic sectoral and regional partnerships. An investor showcase for each cohort, giving companies the opportunity to pitch to investors and potential partners.	Elizabeth Gray (Ontario Genomics)
Call For Applications: The Forge Business Incubator (Deadline November 27) The Forge Business Incubator is tailored to early-stage startups, designed to foster their growth. These entrepreneurs have already surpassed the concept phase and have either launched their startup in the market or developed a functional prototype. The Forge accepts three Business Incubator cohorts each year, and our program transcends industry boundaries. Our alumni have	Marissa Principato (The Forge)

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successfully ventured into software, hardware, IoT, medical devices, healthcare IT, life sciences, advanced manufacturing, and consumer products. The Forge is an entrepreneurial hub backed by McMaster University, catering to startups in the Hamilton, Greater Toronto, and Niagara Regions. We offer comprehensive support to help them transform their concepts into thriving, sustainable ventures. Our cohort-based programs span various industries, facilitating idea development, validation, and, ultimately, growth. For additional information, please visit our website. Please direct any questions regarding the communications package to Marissa Principato, marissa@theforge.mcmaster.ca. For inquiries about the program itself, please feel free to reach out to our Incubator Manager, Riley Moynes, at riley@theforge.mcmaster.ca.	
HHS's Prathiba Harsha wins CANHealth Local Leader Award The Coordinated Accessible National (CAN) Health Network announced the 2023 CAN Health Network Award Recipients recognizing the users, companies, partners, and individuals in the network who are transforming healthcare in Canada and leading the new healthcare economy. Prathiba Harsha, Manager, Clinical Innovation, Hamilton Health Sciences was announced as the recipient of Ontario's Local Leader Award. This award recognizes the network member who has played a paramount role in the development of the network in their region, and who has demonstrated a commitment to scaling Canadian innovation within their communities.	Ted Scott (HHS)
McMaster research hub for vision health receives prestigious $250k Brockhouse Canada Prize An interdisciplinary team of scientists, engineers and clinicians dedicated to developing new biomaterials and therapies for vision disorders has been awarded the Brockhouse Canada Prize for Interdisciplinary Research in Science and Engineering. The Brockhouse Prize, which comes with a $250,000 grant, is one of six national prizes presented by the Natural Sciences and Engineering Research Council (NSERC). The C20/20 Innovation Hub — led by Dean of the Faculty of Engineering and chemical engineering professor, Heather Sheardown — was created to advance ophthalmic research and improve vision for people who experience eye diseases such as macular degeneration, diabetic retinopathy, glaucoma and cataracts. The Prize recognizes C20/20's interdisciplinary research excellence and outstanding contributions to ophthalmic discovery. The team is also developing an improved delivery system for age-related macular degeneration and diabetic retinopathy that will reduce the need for injections to twice a year. Typically, these conditions are treated with monthly eye injections, which patients often choose to forgo due to the painful process of administration. Read the full article here	Alex Muggah (Synapse)
Health innovation accelerator launches at McMaster's Waterloo Regional Campus McMaster University's Michael G. DeGroote School of Medicine, Waterloo Regional Campus (WRC), is delighted to announce the launch of MACcelerate at Communitech, a groundbreaking initiative aimed at creating an environment where medical professionals and aspiring	Margo Mountjoy (McMaster University)

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practitioners collaborate with engineers and entrepreneurs to redefine the future of healthcare and enhance clinical outcomes. The MACcelerate launch event on Oct. 3 brought together dignitaries from McMaster University and the University of Waterloo, government representatives, media, technology experts, entrepreneurs, WRC medical learners, faculty and staff. "MACcelerate is strategically located in the local ecosystem of innovation and commercialization," said Margo Mountjoy, regional assistant dean of Michael G. DeGroote School of Medicine, Waterloo Regional Campus. McMaster University's Michael G. DeGroote School of Medicine, WRC, has long been an incubator for health research and innovation, focusing on areas such as health technology, mental health, and care for older adults. MACcelerate emerges as the convergence point for these fields, facilitating collaboration with entrepreneurial ventures.	
$10 million available to solve admin burden on doctors (Deadline December 12) The $10 million Health Care Unburdened Grant will provide between $500,000 to $1 million in grants to up to 15 organizations that are creating innovative solutions to enhance patient care by reducing administrative work and improving processes and practices. System-wide changes that improve inefficient processes and reduce the time physicians spend completing administrative tasks will enable better patient care and physician wellbeing across Canada. The Health Care Unburdened Grant aims to fuel ideas and advance solutions that lessen the administrative workload to help physicians be better supported in caring for their patients. The Health Care Unburdened Grant will accept applications until December 12, 2023.	Alex Muggah (Synapse)
New Funding Opportunity: Aging in Place Challenge program - National Research Council Canada We are reaching out today because we are very happy to launch a new funding opportunity that aligns with the program's mission to empower and support Canadians in their choice to age in place with technologies developed and evaluated through healthy aging community living labs. This funding opportunity is open to innovative projects that address one or more of the program's 3 focus areas: (a) Preventing transitions in care, (b) Enabling older adults and caregivers to live well; and (c) Creating age friendly communities and social structures For more information on the Healthy aging community living labs initiative and funding opportunity, click here	Heather McNeil (NRC – AiP Program)
MILO's IP course and videos have been released. Intellectual Property (IP) and Commercialization are both central to McMaster's mission & vision for "Impact, Ambition and Transformation through Excellence, Inclusion and Community: Advancing Human and Societal Health and Well-being." Fundamental knowledge of both IP and commercialization will enhance the impact and value of your ideas and innovations. With this knowledge, researchers, students, faculty, and staff from the McMaster community tackle problems through both creativity and innovation. Check out the IP course videos here	Sunita Asrani (McMaster)

Discussion	Presenter
McMaster – Boehringer – St. Joseph's project breathes new life into care for patients with interstitial lung disease An innovative partnership with McMaster University, research-driven biopharmaceutical company Boehringer Ingelheim (Canada) Ltd. and St. Joseph's Healthcare Hamilton is looking to address this gap in patient-centric care. What's resulted is the creation of myILD Kit – a comprehensive package of support and resources for people recently diagnosed. The Kit was created by students from McMaster's Faculty of Engineering in the W Booth School of Engineering Practice and Technology under the guidance of principal investigator Jeremy Hirota, Associate Professor in the Department of Medicine in the Faculty of Health Sciences and a respiratory scientist at St. Joe's within the Firestone Institute for Respiratory Health, and Andrea Hemmerich, sessional faculty member in the Faculty of Engineering. ILD is a group of conditions characterized by scarring of the lungs. It can evolve rapidly to a Progressive Fibrosis-ILD leading to breathlessness or worsening respiratory symptoms, reduced quality of life and early mortality. After interviewing patients, caregivers, healthcare professionals, researchers, along with hosting focus groups and co-design sessions, the design team gained profound insights, including patients' limited access to expert centres, and minimal support and educational materials. Read the full article here	Jay Hirota (McMaster University)
Proteus Innovation Competition Launch The Proteus Innovation Competition is a four-month long pitch competition that challenges you to create a commercialization plan for 1 of 5 technologies developed out of some of southwestern Ontario's top research institutions. Successful teams have the chance to win 1 of 5 prizes of $5000! To learn more about the competition and technologies at the Proteus Launch, register for the Wednesday, November 15 seminar (3 – 5pm).	Amy Hector (MILO)
Announcing The 8 Pitch Competition Finalists Ahead of HardTech Summit ventureLAB is thrilled to unveil the eight finalists who will be taking center stage at the highly-anticipated HardTech Summit Pitch Competition on November 9, 2023 at Toronto Marriott Markham. This unique competition is exclusively open to small and medium enterprises in Canada who are pioneering breakthrough products and innovations in hardware technology for a chance to win a collective $50,000 in cash prizes. Without further ado, learn more about the eight companies that have been shortlisted to present their groundbreaking ideas and projects...	VentureLab
HaloHealth Hybrid Investment Event, Nov 30 (virtual & in person) I am excited to announce that HaloHealth will be hosting our next hybrid investment event in Toronto on November 30th, 2023 at SPACES Queen West Loft location (180 John St) from 5-10PM EST. This event will showcase four (4) emerging health technology companies and bring together medical professionals, investors, and ecosystem stakeholders. We are in the process of finalizing the list of pitching companies and will announce them in the coming weeks. To reserve your spot, please RSVP to our in-person or virtual options	Kyle Jackson (HaloHealth)

Discussion	Presenter

Released: Greater Toronto and Hamilton Area (GTHA) Lab Market Fall 2023
 	
The laboratory real estate market in the Greater Toronto and Hamilton Area (GTHA) is a tale of two stories amongst a finicky capital market that has tamped down the tsunami of demand that was previously brought on by free flowing 2021 capital.
 	
Key Findings:
     – Lab development is lagging thanks to economic headwinds facing both the development proforma and tenant dependent capital markets
     – Developer concern around the ability for the tenant base to lease space at proforma driven pricing persists
     – A couple of key projects will serve as the proxy for the overall marketplace and its ability to absorb vacancy at market rates
     – Employment in the sector continues to grow and capital, while seemingly more abundant than ever before, is being very selective in its investment
     – Articulated government support is needed under the current economic climate to support the growth of R&D in the region which will help spur on more CRO and CDMO development
     – Tenant demand, while cut in half from the peak in 2022, remains high and continues to outpace the availability of space
     – Multitenant wet lab facilities for R&D remains the greatest area of need
– Incubation/accelerator operators are desperately needed to accommodate the large swath of small companies with nowhere to grow
	Dan Lacey (CBRE)

Nytia Health Among Finalists at 5th Annual Digital Health Hub Foundation & Digital Health Awards Excited to share our recent achievement in US, as one of the finalists of the 5th annual Digital Health Hub Foundation & Digital Health Awards, the biggest competition in Digital health. Lear more about the event in this video	Nouradine Boukari (Nytia Health)
Cloud DX wins RFP with Alberta Health Cloud DX, a leading North American provider of Remote Patient Monitoring services as part of the Cloud DX Connected Health Virtual Care Platform is pleased to announce that it has been selected through a competitive RFP process as a provider of digital Remote Patient Monitoring (dRPM) products and services to Alberta Health Services (AHS). AHS has deployed the Cloud DX Connected Health platform since May 2020, under a series of contracts signed during and after the COVID pandemic. Now, Cloud DX has won the competitive RFP to continue as a provider of dRPM devices and services to the provincial health authority. Read the full article here	Alex Muggah (Synapse)

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
Want to Connect with your Ecosystem: Check out the Synapse Health Ecosystem Directory 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: www.synapseconsortium.com/directory	Alex Muggah (Synapse)
Engaging Mohawk College's IDEAWORKS 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: Tips for Innovation Factory Referrals to IDEAWORKS • 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. • Other areas of expertise are on a case by case basis, especially this year, with a number of our faculty committed to teaching and revamping courses • 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 • We recommend working with us on projects that aren't mission critical but can help the company explore an innovative idea. What about start-ups? • 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). • 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. Contact Andrea Johnson for more information: andrea.johnson4@mohawkcollege.ca	Andrea Johnson (Mohawk College)
The CONNECTION - McMaster University Online Partnerships Portal! The Connection 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	Gay Yuyitung (MILO)

Discussion	Presenter
Collaborating with McMaster Institute for Infectious Disease Research (New Intake Form) In addition to our ongoing COVID-19 research initiatives at McMaster, the Michael G. DeGroote 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: • BSL2 cell culture infection with representative human coronaviruses; • Testing of methods or products that are designed to inactivate the virus; • Biochemical/enzyme studies with anti-viral agents. 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. 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 reach out to us through the online form. Each project will be evaluated to determine if McMaster has the capabilities and capacity to perform the required testing.	Gay Yuyitung (MILO)
Hamilton-based technologies available for licensing Each year researchers at McMaster, Hamilton Health Sciences, and St. Joseph's Healthcare Hamilton 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 MILO 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. Please contact Glen Crossley, Associate Director, Business Development and IP or search the list to see some of the technologies currently available for licensing or further R&D	Glen Crossley (MILO)
Hamilton Innovation Partnership Portal Synapse has created the Hamilton Innovation Partnership Portal (HIPP) 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: http://synapseconsortium.com/partner/	Alex Muggah (Synapse)
Submit Community Events on the Innovation Factory Calendar 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.	Annie Horton (Innovation Factory)

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Life Science Consortium