

**AGENDA**

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Date: March 29, 2023

TO: University Planning Committee

FROM: Karen Mossman, Vice-President, Research



**RE: Centre for Research on Community Oriented Entrepreneurship (CRCE)**

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The Committee on Research Institutes, Centres and Groups (CRI) has reviewed and unanimously approved the attached establishment proposal for the Centre for Research on Community Oriented Entrepreneurship (CRCE).

Please include this as an agenda item for the next University Planning Committee Meeting on April 19, 2023.

KM:jt

Attach.

cc: Provost and Vice-President (Academic)  
Vice-Provost and Dean of Graduate Studies  
Dean, DeGroote School of Business  
Dean, Engineering  
Dean, Humanities  
Dean, Social Sciences  
University Secretariat

## Overview

Proposal for the Establishment of ...

Institute  Centre

Official Name of Research

Institute or Centre Centre for Research on Community Oriented Entrepreneurship (CRCE)

The RCI will report to  
which Faculty?

DeGroote School of Business

List all other Faculties that have a significant interest in  
the RCI and confirm they will be represented on the  
Governing Board

Engineering, Social Sciences, and Humanities

### **Core Members**

Definition of Core member: A core member of the CRCE will be a leading expert that contributes to the research goals and mandate of the centre. Through their involvement in CRCE research and activities, core members will contribute to and benefit from enhanced access to community stakeholders, participating entrepreneurs, research infrastructure and the network of international scholars collaborating with the CRCE. Membership in CRCE will facilitate the creation of new interdisciplinary research projects and partnerships with industry, the public sector and non-profit organizations. In addition, CRCE formation will effectively demonstrate capacity for research, institutional support and commitment to attract international collaborations and make McMaster a world leader in community-oriented entrepreneurship. Core members will consist of researchers who are leading experts in the CRCE's areas of research. This team is already leading and coordinating initiatives that will be formalized through the formation of CRCE to provide them with centralized resources that will allow them to increase their collaboration and collective impact on the development of leading edge social and community-oriented entrepreneurship. Membership includes faculty members from the university as well as research partners and community members from other institutions or organizations who are committed to research collaboration and have a record of excellence in research or service related to the mandate of the centre.

Obligations for Core Members: Core members are expected to have expertise in at least one area of research related to the CRCE. They are expected to participate in CRCE research activities, collaborate with other CRCE members and contribute to the centre operating costs through user fees and grant proposals operational costs. Core members with an international focus in their research will help to ensure that the centre research considers and is transferable to international contexts thereby enhancing impact. They will also participate in future CRCE training programs and relevant conferences, including those held at McMaster, to be sponsored and organized by CRCE in addition to those within their respective domains. As well, core members will be responsible for ensuring EDI in terms of diversity of scholarly activities and for the expansion and inclusion of other scholars and practitioners as members of the centre.

Operational roles assigned to core members:

The Director is primarily responsible for overseeing and coordinating the policy research of the organization, supervising the policy staff, leading quality control efforts, developing policy reports on topics not covered by other members of the policy team, and assisting organizational leadership in the development. The Director will provide expert advice to both students and faculty on appropriate research methodologies and ensure that their research projects are carried out to completion. The Director will maintain the membership list and will seek input from the Advisory Committees and the Governing Board. Research staff and students who work for

the Centre will report to the Centre’s Director (or relevant Core/Associate members) and support the team in planning, implementing and overseeing the activities of CRCE. Regular centre membership meetings will occur to facilitate ongoing coordination and communication. The Director will be a faculty member of the Faculty of the DSB who will be appointed for a five-year, renewable term by the Senate and Board of Governors upon the recommendation of the Dean of the DSB to whom the Director will report. The Director will set the agenda for the Centre in consultation with the Governing Board and Internal and External Advisory Boards. The Director will report directly to the Dean of the DSB, with whom final authority for all matters regarding the direction and operation of the Centre rests and will work in collaboration with the Associate Dean (Research) of the DSB. The Director will submit a written report annually to the Governing Board, which will be chaired by the Dean of the DSB (or delegate). This report will also inform the annual reporting and five-year external review process required of all McMaster RCIs.

Dr. Benson Honig, Teresa Cascioli Chair in Entrepreneurial Leadership, DeGroot School of Business, McMaster University is a strong candidate to serve as Director.

Under the general direction of the Director of the CRCE, the Associate Director provides research expertise, program management, and coordination for the research programs of the CRCE. Selection of the AD will be the responsibility of the Governing Board and will occur subsequent to a search undertaken by the Director and approved by the Governing Board. This position is responsible for research project coordination and reporting, the creation of new research opportunities, industry partnerships, and cross-faculty research cluster coordination. The Associate Director will play a critical leadership role in supporting and advancing the CRCE research portfolio, working closely with the director to ensure short and long-term strategic priorities. The AD will maintain a comprehensive awareness of available research opportunities and funding and review and also monitor and address EDI issues to ensure a diversity of scholarship or concerns that arise where the Director may have a conflict of interest.

The AD will facilitate activities, including leading, organizing, and managing research activities of the Institute; leading special research projects/operations which may be ongoing or new and which require innovation, leadership, and coordination; serving as a resource to faculty and staff on matters relating to strategic research initiatives and partnerships with academia and communities. The AD will also facilitate Research Opportunities Creation, including providing program leadership in research opportunities and organizing teams to respond to provincial and federal agency research calls; team building and mentoring of young faculty; and leading faculty research clusters. As well, the AD will support research outreach, including partnerships with NGOs and communities; and serve as a resource to potential and current program participants, corporations, state agencies, and other organizations and individuals on matters related to the Centre’s research program and activities. AD is to be named subsequent to discussions with Dean and Assoc. Dean of Research.

**Core Members:**

| <b>Name</b>             | <b>Faculty</b> | <b>Expertise and potential roles in RCI operations</b>   |
|-------------------------|----------------|--|
| <b>Benson Honig</b>     | DSB            | Social Entrepreneurship, Nascent entrepreneurship, International Development, Community outreach |
| <b>Sash Vaid</b>        | DSB            | Data analytics   |
| <b>Khalid Nainar</b>    | DSB            | Experimental economics   |
| <b>Emad Mohammed</b>    | DSB            | Financial performance  |
| <b>Baniyelme Zoogah</b> | DSB            | Africa, environmental management   |
| <b>Yoontae Jeon</b>     | DSB            | Blockchain   |
| <b>Sandeep Raha</b>     | Health Science | Community Outreach (MCYU)  |
| <b>Trish Ruebottom</b>  | DSB            | Stigma, Organizational Theory  |
| <b>Addisu Lashitew</b>  | DSB            | Social value creation  |
| <b>Brent McKnight</b>   | DSB            | Sustainable communities  |
| <b>Jacques Carrette</b> | Engineering    | Programming  |

|                        |                                   |                                    |
|------------------------|-----------------------------------|------------------------------------|
| <b>Jelle Hellings</b>  | Engineering                       | Data management systems            |
| <b>James Gillett</b>   | Social Sciences                   | Media and communications           |
| <b>Nancy Doubleday</b> | Humanities                        | Social-cultural-ecological systems |
| <b>Ana Siqueira</b>    | William Patterson University, USA | Social Entrepreneurship, Brazil    |

**Associate Members**

Definition of Associate Member: Associate members are faculty members that are engaging in research projects in partnership with the Centre Director and other core members. Their research is related to the activities of the Centre and have in certain cases been named on application(s) submitted by the Director. The industry associate members are also working with the Centre members to support the research and/or are named on an application under review.

Obligations for Associate Members: Associate members will follow the ethics protocol as determined by McMaster University in all jointly sponsored research projects. They will also collaborate in grant writing and share in funding as appropriate. **See Appendix C for Associate Member List.**

|                    |  |  |           |          |  |
|--------------------|--|--|-----------|----------|--|
| <b>Space Needs</b> | 900 Sq. Ft (tentative, exact space to be determined) |  |           |          |  |
|                    |  | New space required?  | Yes       | No       |  |
|                    |  | Location? <u>New DSB building, entrepreneurship centre/floor</u> | Confirmed | Proposed |  |
|                    |  | Space cost allocation covered by lead Faculty?                   | Yes       | No       |  |

If no, specify: \_\_\_\_\_

**Plans for Organizational Review**

Frequency of External:

External Review every five years

In addition, the RCI will be required to report annually to the Governing Board  
*Please provide names below and check box to verify that approval has been obtained from each:*

|  | Check box                           |
|--|-------------------------------------|
| Department Chair/ Area Director            | <input checked="" type="checkbox"/> |
| Faculty Dean or Director of Administration | <input checked="" type="checkbox"/> |
|  | <input checked="" type="checkbox"/> |
|  | <input type="checkbox"/>            |
|  | <input type="checkbox"/>            |
|  | <input type="checkbox"/>            |
| Other (specify)                            | <input type="checkbox"/>            |
|  | <input type="checkbox"/>            |

<sup>1</sup> Given that the proposed CRCE research focus integrates significant opportunities for graduate students training and development, it will engage an Associate Dean of Graduate Studies from one of the associated Faculties on the Governing Board to inform the graduate integration pieces.

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## **A. Background:**

The “Reframery” (precursor to CRCE) was established as a response to COVID-19, recognizing that immigrants, women, persons with disabilities, and minority-owned businesses were disproportionately impacted by Covid and were often supported to a lesser degree by institutional approaches available to address economic problems associated with the pandemic. Existing research conducted internationally by members of this team has long identified women and minorities as less likely to be entrepreneurs. The increasing reliance upon immigration to Canada, coupled with troubling events in Afghanistan and Ukraine, also emphasizes the need to support immigrant entrepreneurship. The COVID-19 pandemic exacerbated these accessibility gaps, highlighting the importance of identifying effective support measures. Thus, Reframery was established as an action research-based incubator focusing on community-based sustainable entrepreneurship and ‘bottom of the pyramid’ entrepreneurial ventures (often established by equity-deserving or marginalized individuals). The Reframery and subsequently the CRCE is a culmination of extensive research experience focusing on international networks and efforts to assist marginalized entrepreneurs in Hamilton, Canada, and abroad.

Small businesses account for over 98% of all employer businesses and 68% of Canadian employment (Key small business statistics, 2020). COVID-19 put many of these businesses in financial jeopardy. Women and minority-led Small and Micro Businesses (SMBs) are particularly vulnerable (and deserving) as they are typically less networked in banking and investment and less likely to engage in lucrative STEM businesses. However, e-commerce provides new opportunities for various deserving individuals, including those with disabilities and of Indigenous background, to expand their entrepreneurial identity and take action to initiate and advance their entrepreneurial vision. This Centre will build on research initiated through awards from the Vice President Research COVID-19 call, an SSHRC Insight Grant focusing primarily on minority-deserving community enterprises and an SSHRC Insight Development Grant as well as a Provost Research Excellence Fund Award and applications to the New Frontiers in Research Fund (NFRF) and blockchain foundations examining digital access and DeFi (decentralized finances) for deserving persons as well as a widely growing array of blockchain research grants available to scholars and community supporters.

The goal of the Research Centre for Community Oriented Entrepreneurship (CRCE) is to positively impact entrepreneurs as measured by their quality of life, employment, income, community development, sustainability, and personal and community health and well-being. This will be measured and facilitated through the integration of an entrepreneurial virtual ingenuity incubator and training, along with expanding participation from NGOs and other community stakeholders in Hamilton, Canada, and worldwide. Existing and developing relationships include (in Hamilton) the YWCA, the Forge and Path services, four NGOs in Kenya (inclusive of the Hebrew Immigration Society (HIAS) - Kenya, RefuSHE, African Entrepreneur Collective) and two in Poland (inclusive of Funacja Inicjatyw Społeczno-Ekonomicznych (FISE)), supporting refugee entrepreneurs and the UNHCR (UN high commission for refugees). CRCE will continue to develop linkages between community social entrepreneurs, the province, and the Federal Government through appropriate channels.

From a training perspective, CRCE will continue to develop expertise and skills for community entrepreneurial development. For example, McMaster's undergraduate and graduate education has benefitted from the ongoing course development with the Integrated Business and Humanities (IBH) program and new innovations regarding entrepreneurship and community development. Research examining innovative approaches to entrepreneurship and social entrepreneurship incubation is a significant component of this vision. The centre will also collaborate with the School of Graduate Studies on a Strategic Alignment Fund (SAF) initiative to develop collaborative specializations for graduate students and will support an entrepreneurship focused graduate option.

Interventions, student projects and research simulations incorporating various elements of interdisciplinary research will be incorporated into CRCE, such as developing a blockchain community currency (BCC) for use by NGOs and examining its impact. The process is currently conceived to take place directly between donor/mentors and NGOs collaborating with the centre. Community currencies have been used over the past fifty years to provide an alternative medium of exchange using banknotes or electronic money circulating within specific communities, allowing members to trade goods and services without using conventional cash, increasing mutual support, social cohesion, and achievement of collective goals. Often traded on par with the national currency, they encourage community development and provide local identity in their transactions by stimulating the local exchange of goods and services and circulating and maintaining wealth, helping to reduce poverty and achieve social goals (Siqueira and Honig, 2019). The critical significance for community currencies is that a blockchain model, through the application of innovative technologies, virtually eliminates problems associated with traditional designs, such as costs and counterfeit currency, while creating a robust research environment by categorizing all transactions, thereby building an economic history for vulnerable and equity-seeking communities. Such a validated transaction history can serve as intangible capital and earned reputational capital for marginalized entrepreneurs in their quest for a greater role in the extant mainstream economy. Our proposed BCC innovation addresses inequalities and eliminates management and office costs (Siqueira, Honig, Mariano & Moraes, 2020). We plan to develop a BCC model that can be offered as a turn-key project to NGO's enhanced with a unique peer-to-peer support and mentoring portal connecting both McMaster students and interested volunteers to provide mentoring and financial support for SMBs in Canada and abroad. The CRCE will initially examine the impact of incubation, BCC, and peer-to-peer activities through an online-only evidence-based model of SMB support absent of the typically required bricks-and-mortar costs. This is of relevance to sociologists, geographers, computer engineers, economists, and policymakers, as well as business scholars of economic development, inequality, diversity, inclusion and mobility. ***Neither the CRCE, nor McMaster University will solicit donations or provide donation money for the BCC. Rather, this will be done along a parallel track whereby donors directly support various partner NGOs in sponsoring BCC donations by linking directly to the NGO web site.*** CRCE will work with McMaster's Office of Legal Services to ensure that appropriate disclaimers are in place to ensure that all parties (NGOs, donors, mentors, entrepreneurs, ventures) are aware of McMaster's role and limited liability in their use of any BCC system that is proposed. Given this structure and context, there should not be any financial



risk on McMaster, and this has been discussed with Central Finance, MILO and our legal services to provide guidance on how the Centre should structure the flow of funds related to BCC.

The CRCE will employ various strategies toward community development and social entrepreneurship world-wide. The CRCE will leverage and build on earlier work conducted by the Reframery ([www.reframery.org](http://www.reframery.org)) which addresses community-oriented sustainable ventures, often the smallest, most vulnerable firms. This action-based social enterprise is a virtual ingenuity incubator addressing inequalities to inform and strengthen the development of sustainable, adaptive solutions. The CRCE builds on this earlier work to promote innovation yielding social change, new entrepreneurial ventures and new solutions to emerging challenges. The Reframery team will provide an innovative perspective on intervention success or failure and impact by examining both individual measures and the communities at large. Our objectives are as follows:

## **B. Objectives and Proposed Activities:**

### **i. Objectives:**

In summary form, our immediate objectives at the CRCE consist of the following:

#### **Innovative Interdisciplinary Research**

- 1) To produce and promote high-quality research in entrepreneurship and innovation that extends knowledge on how organizations align economic, social, and environmental goals with inclusive entrepreneurship among equity-deserving groups.
- 2) To support the creation of innovative new ventures that use imaginative problem-solving to overcome structural and resource constraints.

#### **Education**

- 3) To enhance undergraduate and graduate education in promoting community support of social entrepreneurial ventures in Canada and abroad.
- 4) To provide McMaster students with opportunities to engage in experiential learning through social entrepreneurial venture support and training.
- 5) To build capacity in graduate and undergraduate students to develop training and consulting modules and evaluate design effectiveness over time.

#### **Evaluation**

- 6) To demonstrate the effectiveness of an incubator model that supports the development of ingenuity for SMBs (micro and small businesses) employing a virtual model of interaction
- 7) To demonstrate the effective use of tailored case studies, experiential learning opportunities, mentoring, consulting and simulation activities that increase the resilience of SMBs, with a focus on women, minorities, and other equity-seeking groups.
- 8) To develop and evaluate a virtual community currency integrated with a business incubator
- 9) To develop and evaluate a peer-to-peer based community support and engagement initiative for SMBs.

#### **Engagement of equity-deserving groups**

- 10) To develop a replicable model for a virtual incubator that can be utilized across Canada and worldwide (e.g., for refugees) as well as in other countries and emerging economies. To extend the team's prior work in support of equity deserving groups in their attainment of their entrepreneurial goals to engage with marginalized communities with the objective of enhanced entrepreneurial success.
- 11) To support the Hamilton community, the Ontario province, and the Canadian government in identifying effective and efficient methods of supporting nascent entrepreneurship that leads to sustainable community development, consistent with McMaster's Brighter World Initiative.

#### **Fostering International connections**

- 12) Develop and enhance international research and community interaction between scholars, students, and Canadian community members with other communities abroad.
- 13) Develop an active speaker's series inviting important local and international advocates onto McMaster campus to enhance visibility, develop research linkages, and a greater understanding of community engaged entrepreneurship.

#### **Advancing interdisciplinary research**

- 14) Promote, collaborate, and enhance interdisciplinary research regarding factors impacting and supporting community sustainability, resilience and SMB development at McMaster and Abroad

#### **Promoting and enhancing community Resilience**

- 15) To initiate and evaluate support activities that lead to community resilience, sustainability, and the enhancement of mental and physical health for community members, particularly those in marginalized positions. This perspective, helping individuals with disabilities, those with economic challenges, new immigrants and refugees, is in consonance with and well supported by McMaster's Brighter World Campaign.

The novel designs, some of which are described below (e.g., BCC, peer-to-peer support, and virtual incubation) utilize experiential learning reflecting years of global research, including simulations, dialogue-based learning modules, and customized mini-case studies examining ingenuity, mentoring design thinking and innovation to overcome challenges faced by small and micro businesses (SMB) and community constraints. Furthermore, this innovative approach to supporting fragile entrepreneurial ventures – often established by deserving groups such as women, persons with disabilities, immigrants, indigenous persons and minority entrepreneurs (Mo, Cukier, Atputharajah, Boase, & Hon, 2020; Croteau, Grant, Rojas, & Abdelhamid, 2021) – is highly scalable to a broad range of businesses worldwide.

#### **ii. Proposed Activities:**

The most immediate need is to expand the reach and effectiveness of social entrepreneurship developed and promoted by CRCE will be the Reframery incubation concept (inclusive of research, training of entrepreneurs, research HQP training, and community network expansion) to demonstrate its viability across different populations and contexts (Albort-Morant & Oghazi,

2016; Bollingtoft & Ulhøj, 2005; Amezcua et al., 2019; Theodorakopoulos, Kakabadse & McGowan, 2014). Traditional incubators [e.g., ‘The Forge’] are designed to support and grow new firms by offering advice, networking, office space, shared services, and mentoring services (Amezcua et al., 2013; Amezcua et al., 2019; Klyver, Honig, & Steffens, 2018; Ratinho, Amezcua, Honig, & Zeng, 2020; Siqueira, Honig, Mariano & Moraes, 2020). They are typically costly to run, requiring significant administrative resources and commercial space (Hackett and Dilts, 2004; Honig & Karlsson, 2010; Mas-Verdú, Ribeiro-Soriano, & Roig-Tierno, 2015). While there are over 100 incubators in Canada, they are almost all bricks and mortar facilities that have expensive rent, management and administration costs, as well as start-up funding costs per firm that typically exceed \$50,000 (104). None have been identified as fully virtual, and none are designed to support social entrepreneurship for marginalized populations. Alternatively, as a result of limitations imposed by COVID, we designed and implemented a virtual incubator for SMBs targeting marginalized individuals (Martin & Honig, 2019). We provide extensive virtual training and mentoring in a concise six-session program to cohorts of nascent SMBs. By reducing overhead, the team developed a model that can be replicated worldwide at limited cost, avoiding management and building expenses, to address entrepreneurial support gaps, particularly for marginalized persons who normally do not get access to conventional incubators (De Clercq & Honig, 2011; Honig, forthcoming; Honig 2021).

The initial team consisting of Honig and Siqueira, and an original Covid-19 Research Fund grant provided by McMaster, has expanded to include other faculty at McMaster and abroad, most currently to work with persons with disabilities, with Kenyan sex workers and with refugees. Other possible future groups include various immigrant communities, First Nations and Indigenous communities, and those confined to refugee camps as a result of regional wars and upheavals. Ongoing work, including required undergraduate classes, links the Integrated Business and Humanities (IBH) courses with local and international social entrepreneurs, helping to advance their capabilities as well as developing student skills in consulting and project management. The Reframery incubator supports entrepreneurs and potential entrepreneurs in our community, custom tailoring support services according to cohorts’ needs and a meagre per-person cost. We have so far supported over 60 SMBs with marginal costs consisting only of doctoral student time and limited web support, costing less than \$1500 per ten-person cohort for program development and implementation costs. Many functioning incubators spend more than our marginal cost of \$150 per person (for a six or twelve-week session) on coffee and snacks. For example, the Forge, an incubator in Hamilton, has a budget of over \$700,000 per year. This includes 4 full-time staff plus 2-3 part-time students (\$460k approx.), paid mentorship and other professional services (\$60k - most mentors are volunteers, but they do have a few that are paid who are providing more hours or have special expertise), a stipend program that is used to support some of the start-ups on a reimbursement basis (\$25k), general admin and operating costs for office, marketing, food for events (\$80k), and summer program awards /prize money (75k). In marked contrast to a physical incubator, now that the basic curriculum has been designed and the model developed, our marginal costs are only the time costs of one or two students over a typical 6–10-hour cohort, less than a total of \$50.00 per student trained.

The Reframery has previously worked with immigrant communities. Each cohort provides unique opportunities to engage different stakeholders in our community, including NGOs focusing on our cohort and the marginalized persons themselves. Furthermore, each cohort provides unique research opportunities. For example, our current SSHRC-funded project regarding persons with disabilities opens a new research opportunity for understanding the unique incubation needs of this particular community. Our engagement also provides opportunities for undergraduate and graduate students to engage with this community and learn new techniques, developing an interest in supporting their needs. So far, we have engaged four students in core activities and a further 30 in design activities (10 in computer science and 20 in Integrated Business and Humanities).

In addition to focusing on entrepreneurial incubation innovations, the plan includes the examination of the integration/development of a novel, effective and scalable community currency based on blockchain technology. Community currencies provide an alternative medium of exchange by using banknotes or electronic money, which circulates only within particular communities, allowing members to trade goods and services without using cash to increase mutual support, social cohesion, and achievement of collective goals. Anticipated research will explore the process by which money can be employed beyond the maintenance of contemporary capitalism for different communitarian purposes. Our use of blockchain is not designed to develop speculative currencies or investment opportunities. Rather, we link to a fixed currency unit (a 'stablecoin, linked to the US dollar) that encourages both saving and business exchange. Thus, the diffusion of a community currency encourages the marketing of services and products linked to neighbourhood exchanges of the blockchain currency that will circulate. The circulation of this currency will provide important information regarding creditworthiness to the formal banking industry. It will also facilitate the capital attraction and leveraging of innovative ideas suitable to the communities where the currency is circulating.

One novel and important touch point for entrepreneurs is access to capital, which will be provided in the form of grants through peer-to-peer networking we will facilitate. These grants will be delivered directly to the NGO, who will convert them into BCC units for the entrepreneur's use. Working with world-class computer scientists, the Reframery team will explore the role of a blockchain community currency, peer-to-peer mentoring, and micro-lending/granting capacity, which will be distributed by the NGOs after the entrepreneurial educational component of the Reframery and CRCE activities are concluded. This is a unique concept, as previously, blockchain units have been used to distribute income, such as for the provision of universal basic income, but not to replace trading currency in a protected community environment, a currency combined with training and peer-to-peer mentoring, as we are designing/examining is innovative. Traditional community currency approaches have been employed to support and promote SMBs worldwide; however, they have been handicapped due to the extensive monitoring and verification costs. Utilizing a blockchain system eliminates this major hurdle and represents a radical innovation in the field.

The major advantage of applying innovations such as a community currency in an entrepreneurial incubation context under this centre's umbrella is that it allows for the expansion of interventions

and related research, ensuring a multidisciplinary lens on the development of solutions. It demonstrates that applying innovative approaches (digital incubation and community currency) in support of SMBs can creatively expand how community-based enterprises are fostered/supported. Our initial investigation will be based on the stablecoin, a US dollar-denominated product developed by our partner Kotanipay. The code based on this will use an API identified here: <https://kotanipay-test.web.app/>. This coin has been previously employed as a universal basic income tool that transfers into a widespread digital currency in Kenya called MPESA. We will examine as one option the redesign of this coin and the suitability for NGOs to collect peer to peer donations and convert them into BCC units. We will work with the NGOs to arrange for it to circulate throughout our refugee communities in Kenya and Poland, tracking the transaction and diffusion rates.

At the community level, CRCE research and anticipated community currency increase the opportunity for the economic impact on the part of entrepreneurs to increase self-employment for women and girls, persons with disabilities, indigenous persons and minorities while enhancing Corporate Social Responsibility (CSR). It will positively impact volunteers' mentors and consultants, reducing reliance on social services while increasing community partnerships and collaboration. Research has already demonstrated the potential of community currencies (Siqueira, Honig, Mariano, Moraes, 2020). The initial focus of CRCE is built on the team's existing orientation towards equity-seeking groups; however, the innovative solutions are broadly applicable to all members of society. By linking these needs with capable McMaster students, at various levels and departments, CRCE will facilitate the advancement of both training and interest in community-led social entrepreneurship.

### iii. Activities: Overview

CRCE will be organized along three strategic directions involving **knowledge production**, **knowledge dissemination**, and **student training**, as follows:

**Knowledge Production:** CRCE will systematically investigate methods, models, and interventions that support entrepreneurship promotion for the designated target groups. This will entail writing grants and obtaining resources for developing, implementing, and evaluating support services. While there are growing initiatives in North America supporting entrepreneurship, research regarding their effectiveness has been limited (Martin & Honig, 2019). Our newly designed action research virtual incubator will not only contribute to the literature examining the meaning, and boundaries, of social entrepreneurship (cf. Nicholls, 2010) but also provide practical learning and evaluation tools that can be applied to the use of Not-for-profit entrepreneurship development as a means of helping other disadvantaged groups world-wide (Sowa, Selden and Sandfort, 2004). Due to the virtual nature of this intervention, we can develop and evaluate a program that offers unique opportunities to persons with mobility, vision, and auditory limitations. CRCE will uncover if and how targeted ingenuity training enhances the efficacy of nascent gestation behaviour (see Davidsson and Honig, 2004) in leading to actual business creation at the critical early stages of the process. This research will contribute to the growing but inconsistent literature on entrepreneurship education and support, extending

theory in entrepreneurial emergence by beginning to explain the important behavioural connections often neglected in favour of intentional and attitudinal explanations such as entrepreneurial intentions research (Ratinho, Amezcua, Honig, & Zeng, 2020).

**Knowledge Dissemination:** CRCE will actively develop tool kits, manuals, and replicable models tested and validated as suitable for community engagement activities throughout Canada and the rest of the world, including emerging economies. We will also develop tools, educational programming, and training sessions to make use of the community currency system, as well as support new research opportunities to study transactions and dissemination. The centre's dissemination strategy will consist of multiple tracks focusing on engagement and interaction, as well as products and distribution channels. The primary influence on decision-makers at all levels of NGO and community practitioners and government will occur through face-to-face contacts at annual conferences, workshops, a speaker series, forums, briefings, seminars, and community events. The centre will actively participate in MICYU (McMaster Children's Youth University) in dissemination and education. The centre's website (Reframery already has a website at [www.Reframery.org](http://www.Reframery.org)) will be enhanced for greater accessibility. We will post working papers, feature partner information, provide links to relevant external research and policy material, and post an activity calendar. Once the centre is established, we will begin preparations for an international conference on virtual incubation and support, occurring in our third year of operation. A SSHRC Connection Grant application will be submitted, inviting the Canadian government, NGO, and educational providers, as well as our international colleagues and other interested scholars and educators. CRCE will also provide a web-based service, free of charge, as a depot for research-validated best practices for virtual incubation promotion and delivery. CRCE will also develop e-books and manuals for circulation to the NGO and relevant government bodies outlining best practices supported by our research.

**Student Training:** CRCE will actively incorporate student training designed to develop quality experiences for undergraduate and graduate students. Initial projects that provide both a model and an example of the training opportunities we plan to initiate include previous work strategically aligning with the Water Without Borders (WWB) initiative at the United Nations University (UNU) and the Integrated Business and Humanities (IBH) Program. In that particular 'demonstration' program, DSB students, advised by graduate students in the WWB program, ideated and proposed water solutions for an informal community in Cape Town, South Africa. The CRCE will develop targeted programs such as this, focusing on immigrants, refugees, indigenous, minority entrepreneurs, elderpreneurs, persons with disabilities, and other marginalized groups in order to provide an opportunity to expose students to a variety of public policy issues related to disability entrepreneurship, labour markets, social entrepreneurship, and intersectionality (gender and minority status).

Students from various disciplines, including computer science, health science, sociology, communications, and humanities, interested in engaging with these marginalized groups in action research will be exposed to innovative methods and research, as well as entirely new domains, such as persons with disabilities, indigenous persons, immigrants and minorities. We envision engaging at least one post-doc, 2-3 doctoral students, 10 graduate students from various

faculties, and teams of approximately 25 undergraduate students per academic year, with an organic growth that will match our funding capabilities. HQP will be supervised by the Director as well as Core and Associate members and will facilitate collaboration through their engagement in various projects. They will be responsible (under supervision) for the implementation, data coding, website development, communication, video production, and coordination responsibilities under the supervision of the centre members. Training will involve a wide range of research skills and qualitative and quantitative aspects of data collection and analysis across various disciplines, including sociology, business, and communication. Quantitative training includes material unavailable through regular course work, such as advanced regression and probit analysis, as well as grounded experience in conducting qualitative interviews, coding, and content analysis. Students will assist with data collection and the coordination of transcriptions. Skills obtained by the students will be very important in their future careers, as they will become proficient researchers, useful for both academic and non-academic careers, as well as possible policy roles and/or career goals such as NGO management and support roles.

#### **iv. Current and proposed research activities**

CRCE will build on existing research activities, facilitating the development of a 'big tent' for collaboration of existing related entrepreneurship research activities as they develop at DeGroot. The Centre will be the first stop and the overall coordinating location for entrepreneurship research, promotion, and education at DeGroot and McMaster. This entails the Reframery efforts to establish the virtual ingenuity incubator and other research efforts already underway and envisioned.

##### **Ingenuity Incubator Research**

There are numerous ongoing projects currently led by Core and Associate members related to the CRCE that are ideal for extending the activities of the centre. They include projects involving refugees in Europe (the UK and Denmark, for example), Brazil, the USA, South Africa, Sweden, Germany, and Ecuador, to name a few of the research contexts. In each case, this work can be brought into the research centre, with collaboration from doctoral students. Completed work can be disseminated with the help of CRCE staff and presented to panels and conferences both on campus and elsewhere, promoted and developed by the centre. There are numerous ongoing research activities with various international scholars conducted with the Reframery that are certain to be continued and expanded under the mandate and framework. Relevant exemplary (ongoing) projects are listed in Appendix B.

Honig was initially supported by a McMaster Covid-19 Research Fund entitled "Developing a Virtual Ingenuity Incubator for Women and Minority-Led Businesses During the COVID-19 Crisis". This initiative arose from the challenges entrepreneurs experienced during the pandemic's initial stages and has since continued. This funding formed the impetus for the CRCE; it allowed the research team consisting of Dr. Honig and his colleague Dr. Siqueira to initiate their research program and establish a virtual ingenuity incubator responding to the COVID-19 crisis and enhancing socio-economic conditions. This has also led to the development of materials, cases

and videos that enhance undergraduate and graduate student knowledge of rapid small-business adaptation during turbulent periods while Ph.D. students, including Javid Nafari, Anjali Chawla, Toli Jembere, and postdoc Abede Jawre participated in various aspects of the research project.

Subsequently, a SSHRC Insight Grant entitled “Theorizing and testing ingenuity and community currency for women and minority SMBs utilizing a virtual incubator” is supporting the next stages of this research. Interventions, simulations, and a BCC (targeted boundary-spanning community currency, as previously described) are designed to increase the resilience of SMBs, testing not only in Canada but environments in the USA and Brazil to ensure robustness in heterogeneous communities.

Additionally, a SSHRC Insight Development Grant entitled “Researching Entrepreneurship Including Individuals with Disabilities: An Abilities-Inclusive Approach.” was funded for the Reframery aspect of the centre. This component developed new and innovative tools and a new program for persons with disabilities. The research is useful to NGOs in the public sector, the government, persons with disabilities, and scholars interested in supporting entrepreneurship for persons with disabilities. We will bring this model to a new population, studying them with new methods and theoretical perspectives. We consider two factors impacting this population: their difficulty regarding mobility and access, often limiting their accessibility to traditional entrepreneurship incubation and promotion activities – and the inductive study of identity, in terms of how individuals see themselves and how that process can be both supported and understood with entrepreneurship promotion.

The future directions include the expansion of efforts previously undertaken to explore a community currency option, building on existing research activities. For example, what we have learned about persons with disabilities (PWDs) can be applied, in conjunction with community currencies, to develop a specifically targeted support network for PWDs. The vision is to develop an effective and scalable community currency based on blockchain technology where transactions are recorded for all users, allowing for both peer-to-peer support and the measurement and study of transaction diffusion and rates. Community currencies provide an alternative medium of exchange using banknotes or electronic money circulating within particular communities, allowing members to trade goods and services without using cash, increasing mutual support, social cohesion, and achievement of collective goals. We will research processes such as credit risk and financial access, diversification and growth, studying how the SMB firms supported by the CRCE incubation activities serve communitarian purposes. This emerging technology, along with an innovative entrepreneurial incubation mechanism, facilitates the testing, scale and impact of new interventions. Working with world-class computer scientists, such as Jelle Hellings and Jacques Carette, both from McMaster University’s Faculty of Engineering, Computer Sciences, we will develop and launch a blockchain community currency. A recent Provost Research Excellence Fund Award supported by the Faculties of Business and Engineering with matching funds from the Office of the Provost is allowing the research team to establish a pilot study that expands their work to include refugee communities in Africa; this is in anticipation of a positive outcome from their application to the New Frontiers Research Fund-Post Pandemic Call.



## **Social Innovation**

Researchers participating in the CRCE explore various issues at the intersection of social innovation and the organization. Research explores the gender dimension during the pandemic, including the relationship between gender equality and public policy. Policies can promote gender equality in times of COVID-19, while women in leadership can also promote successful measures. This is an evolving area of research requiring future assessment of causal relationships. A growing body of research looks into business-led efforts to create social value by improving the socio-economic well-being of Base of the Pyramid (BoP) communities. Research shows that businesses that pursue these strategies — or BoP businesses — face distinct challenges that require unique capabilities.

The CRCE and its exploration of the role of community currencies in developed and developing economies build on prior research on mobile money innovations. As mobile money innovations have expanded significantly in developing countries, our understanding of the factors that affect the development and diffusion has relevance in its own right and for the proposed centre. Analysis reveals the critical role of the lead firm in guiding the innovation process and the importance of a supportive regulatory environment that seeks to advance financial inclusion. The results further reveal how key actors' power and interest dynamics in the innovation system can shape the emergence of inclusive innovations that address social issues.

## **Entrepreneurial Ecosystem – An Emerging Economy Lens**

An important goal of the CRCE will be to develop and promote alternative economic micro-environments that benefit SMBs in areas of difficulty, including war, refugee and environmental challenges. Doing so entails ground-up partnerships with local NGOs to determine the best avenues for community development, allowing the capabilities of CRCE to support relevant adaptations and changes necessitated by environmental changes. CRCE will utilize our collective expertise, as manifested by the human capital of the members and their networks, as well as student capabilities, including doctoral and undergraduate, to support necessary adaptations and ingenious solutions to existing and emerging problems (Siqueira & Honig, 2019). To facilitate this transition, it will be necessary for CRCE to study the entrepreneurial ecosystem.

Entrepreneurial ecosystems are part of a family of spatial agglomerative constructs (e.g., industrial districts, clusters, regional innovation systems, etc.) that emphasize regional development through facilitating business activities. Ecosystems are the sets of “interconnected entrepreneurial actors, entrepreneurial organizations, institutions and entrepreneurial processes which formally and informally coalesce to connect, mediate, and govern performance within the local entrepreneurial environment” (Mason & Brown, 2014: 5) that fundamentally serve as resource allocation systems and are spatially bound, typically at municipal and regional levels but potentially at national levels or beyond (Autio, Nambisan, Thomas, & Wright, 2018). The

prototypical ecosystem is Silicon Valley in the San Francisco Bay Area of California: a dense, emergent collection of entrepreneurial support organizations (ESOs), venture capital, and skilled labour embedded in a robust market and infused with a pronounced entrepreneurial culture.

There is an emphasis in ecosystems research on productive entrepreneurship (Stam & van de Ven, 2019), entrepreneurship that is associated with job creation and an increase in the overall wealth of an economy (Wurth, Stam, & Spigel, 2021). However, typically productive entrepreneurship has only been associated with high-growth entrepreneurship (Spigel & Harrison, 2018).

In developing economies, the spillover effects of entrepreneurship (as in the case of the used clothing industry) can influence societal issues such as environmental sustainability and health. Also, in poverty settings, entrepreneurs' literal survival can be at risk in settings of venture failure. Thus, as has been the case regarding other issues in which extreme poverty settings are examined, basic assumptions of mature economies may not apply (Sutter, Bruton, & Chen, 2019). Given global trends that include issues related to refugees (Klyver, Steffens, & Honig, forthcoming). Climate change and general inequality, new forms of institutional support need to be developed to replace neoliberal models that have failed to fully adjust to radical change (Reid, 2012). The research conducted by the CRCE will support initiatives that develop, test, and diffuse alternative solutions.

#### **v. Operationalization of Objectives**

##### **Education**

Design and provide entrepreneurship educational services and membership programs for deserving populations. Develop and promote opportunities for Graduate students at the doctoral, graduate, and undergraduate levels to engage in research and training opportunities for the designated CRCE populations, enhancing their understanding of the research challenges and opportunities for working in this emergent field. Collaborate with McMaster Children's and Youth University (MCYU) in dissemination.

##### **Scale**

Develop an intensive program to identify and apply for grants through agencies such as SSHRC, NSERC, New Frontiers in Research Fund programs and other programs such as the Ontario Research Fund – Research Excellence and Canada Foundation for Innovation as applicable. Given the international focus of CRCE, sources of funding that encourage international collaboration will be examined. Ongoing efforts with the DeGroot School of Business and McMaster Advancement teams as they engage with alumni for friend-raising and fundraising among potential donors. Foundations and non-traditional sources (TD Grand Challenges, Google Grand Challenge and various blockchain foundations) have diverse new options beyond standard research funding sources.

##### **University Context**

The current and future activities of CRCE will benefit from relationships with the following University units.

- a) **Office of Community Engagement.** The Office of Community Engagement (OCE) works to foster collaboration between University and community partners to better understand and consider the issues identified as priorities by local communities. It is also involved in performing research, teaching and service with community members and partners. Where suitable, CRCE research clusters and individual members will collaborate with the OCE on research, student training and knowledge communication.
- b) **McMaster Digital Transformation Research Centre.** The McMaster Digital Transformation Research Centre (MDTRC) examines the impact of technology; it promotes multidisciplinary research aimed at better understanding how the digital revolution is impacting individuals and transforming organizations and society at large. The CRCE's transformative use of technology addresses two key innovations, digital entrepreneurship incubator and digital community currency. Researchers will collaborate on future projects and mobilization efforts.
- c) **UNU and Water without borders.** Initial teaching activities have already been conducted utilizing the Water Without Borders program (WWB) and the DSB through the IBH (Integrated Business and Humanities) program. Opportunities exist to extend the center in order to overlap and facilitate SMB water development projects in emerging economies.
- d) Future aspirations, including an enhanced association with **Indigenous Studies Program** and the **McMaster Indigenous Research Institute**, will be critical in bringing appropriately designed virtual incubation activities to First Nations communities.
- e) Develop an active speaker series that engages scholarship across faculties at McMaster.
- f) Collaborate with **McMaster Children's and Youth University** (MCYU) with relevant programming.

### **Regional and National Contexts**

Where opportunities arise, CRCE will collaborate with institutions and organizations across Ontario and Canada involved in entrepreneurship promotion, education and advocacy, particularly focusing on marginalized and bottom-of-the-pyramid activities. The ingenuity incubator concept can be replicated at other educational institutions and with an expanding network of NGOs.

### **International Contexts**

CRCE emerged due to the global crisis engendered by the COVID-19 pandemic. CRCE members have ongoing partnerships with researchers and institutions in several countries in North America, Africa, the Caribbean, South America, Europe and Southeast Asia. For example, innovative virtual entrepreneurship education and project design challenges conducted with the IBH program, the University of Cape Town, and the Philippi community development center (all in South Africa) have established ongoing service-learning activities that offer extensive research and expansion opportunities. As well, systematic linkages have been established with the Africa

Academy of Management to expand the activities of CRCE to the African continent. For example, ongoing support and research are being conducted presently in Kenya with the assistance of Africa Academy of Management scholars in conjunction with a Kenyan Women’s support NGO. Further relations have been established with 1) Monder Ram and the research center CREME (Centre for Research on Ethnic and Minority Entrepreneurship) at the University of Aston in the UK, and 2) with a European consortium studying immigrant entrepreneurship led by Alexandra David, Westphalian University; Institute for Work & Technology; Research Department, and 3) Michele Richey, University of Loughborough, Research Director of the Global Refugee Entrepreneurship Network. These sorts of activities are expected to expand and grow worldwide as the centre develops.

**vi. Strategies**

**Strategies Connected to the first set of objectives:** Produce and promote high-quality research in entrepreneurship education, tool development and evidence-based innovation, extending knowledge on organizations that align economic, social, and environmental goals as well as on inclusive entrepreneurship.

| Strategies  | Comments   | Timeline  | Significance   |
|---|--|---|--|
| Conduct research and showcase faculty research and intellectual contributions                     |  | The Reframery (precursor to CRCE) began in June 2021 with seed funding from the McMaster Covid-19 Grant call for applications issued by the Vice President of Research. Formal Center to start Winter, 2023<br>Goals: Ongoing | Goal is to continue to produce research in the field of responsible and inclusive entrepreneurship, develop a sustainable model of funding, attract visibility to DeGroote and to McMaster while advancing the Center’s mission, enhance awareness and expertise in evidence-based entrepreneurship research for student and faculty populations |
| Develop strategic alliances with other research centers worldwide, including the Entrepreneurship | Current funding: - Canadian \$99,290 from McMaster COVID-19 Research Fund from June 1, | Start: winter, 2023<br>Goal: Ongoing  | Goal is to produce leading-edge research contributions and provide state of the  |

| Strategies   | Comments   | Timeline  | Significance  |
|--|--|---|---|
| <p>Center at Cotsakos College of Business, William Paterson University, N.J. Directed by Ana Siqueira, Ph.D.</p> <p>Develop new international grant opportunities through bilateral and multilateral agency funding, including OECD, IRDC, USAID, and bi-national granting opportunities</p> | <p>2020, to May 31, 2022</p> <p>-Canadian \$295,251 from Canada's SSHRC Insight Grant Program from April 1, 2021, to March 31, 2026</p> <p>-Canadian \$62,332 from Canada's SSHRC Insight Development Grant Program from June 2021 to May 2023.</p> <p>- \$7,500 grant for summer research internship</p> <p>Current and planned action research and data collection communities:</p> <ul style="list-style-type: none"> <li>-Brazil</li> <li>-Canada</li> <li>-Kenya</li> <li>-United States</li> </ul> |   | <p>art experiential research opportunities for students and faculty through innovative action research in the fields of (a) sustainable and inclusive entrepreneurship, and (b) financial technology innovations for promoting social capital and entrepreneurship</p>            |
|  | <p>Project already underway with Engineering to develop a block chain community currency, with sponsorship from the Provost Research Excellence Award</p>  | <p>Expected launch date of block chain community currency Spring 2023</p> | <p>Exposing a wide range of faculty and students at the undergraduate, graduate, and post-graduate levels opportunities to engage in action research, evidenced based research, and pedagogical research regarding supporting marginalized persons engaging in innovation and</p> |

| Strategies                           | Comments  | Timeline  | Significance   |
|--------------------------------------|---|---|--|
|                                      |   |   | entrepreneurial community development  |
| Application submitted for NFRF grant | Application completed and submitted for refugee SMB support in Kenya and Poland | Expected answer Jan 2023 for \$497,000 grant plus possible additions by block chain foundations and UNHCR | New Peer-Peer support and block chain community currency potentially paradigm shifting innovations |

**Strategies Connected to Objective 2:** Develop a self-sustainable funding model that supports our community development activities, independent of reliance upon grant cycles and university financial support.

| Strategies   | Comments                              | Timeline   | Significance                   |
|--|---------------------------------------|--|--------------------------------|
| Apply for Canadian and International Grants                                | Various grant applications underway   | <b>Continuous</b>  | Support day to day operations  |
| Begin a revenue generating model to support replication of model elsewhere | Requires research demonstrated impact | Once evidence-based research supports our model, we will endeavor to raise centre funds by facilitating the replication of our model to other targeted regions and populations | Support day to day operations. |

**Strategies Connected to Objective 3:** Develop a world-class, internationally recognized center capable of supporting and replicating evidence-based innovations for the support of community-based entrepreneurship for individuals worldwide. Develop an international reputation that attracts and trains researchers and practitioners in excellence for bottom-of-the-pyramid innovative entrepreneurship-oriented community development.

| Strategies                      | Comments  | Timeline  | Significance   |
|---------------------------------|---|-----------|--|
| Hold international conferences  | Unique opportunity to develop expertise in an uncharted field           | Year 2-5  | Significant PR opportunities for McMaster and DSB                            |
| Develop a campus speaker series | Enhance McMaster community interest in community-based entrepreneurship | Years 1-5 | Expand interaction and inter-disciplinary scholarship; student participation |

|   |   |          |  |
|---|---|----------|--|
| Special issues in leading academic journals           | Research focus highlighted  | Year 1-5 |  |
| Develop blockchain model to envisage a community bank | Requires successful grant application to develop block chain community currency | Year 2-5 | Possibly path breaking innovation never before conducted – global implications |

### Strategic Alliances

Strategic alliances will be built between relevant research centres and community outreach centres. At this stage, four centres will collaborate as follows:

- Entrepreneurship Center: Cotsakos College of Business Department of Management, Marketing, Professional Sales (Dr. Siqueira, the center director, is a co-founder and co-director of the Reframery)
- Professor Monder Ram OBE DL, Director, Centre for Research in Ethnic Minority Entrepreneurship (CREME)
- Inkomoko. Kigali, Rwanda, Africa. Olive Ashimwe, Regional Director of Business Growth Services.
- Współkierownik projektu H2020 Welcoming Spaces w SGH / Co-manager of the H2020 Welcoming Spaces project at SGH; Warsaw School of Economics. Julia Koczanowicz-Chondzyńska and Maria Aluchna, Professor.

These four Centres will continue to collaborate on various research-oriented projects.

### C. Rationale for Establishment of the Research Centre or Institute:

The objective of the CRCE research centre is to provide a forum for faculty across McMaster, as well as internationally, to develop and test models of virtual incubation, which is an entirely new post-pandemic model. There is a significant need to support emergent firms, particularly those that face barriers to entry due to their industry, ownership status, and/or other biases in the marketplace that disadvantage certain populations, including women, immigrants and persons with disabilities. The vast majority of business start-ups are local SMBs (small and micro businesses) which are often ignored but highly important to the economic well-being of Canada (Key small business Statistics, 2021; Davidsson and Honig, 2003; Ratinho, Amezcua, Honig & Zeng, 2020). The centre will offer several distinct advantages over existing programs, including a focus on research and digital delivery, offering significantly lower cost support compared to traditional incubations.

First, it will codify our research efforts to test and disseminate the findings of the CRCE model worldwide. This will be facilitated by newly organized, topically dedicated international conferences to be supported through the SSHRC connection grant. The centre will obtain SSHRC team grants to design and sponsor under its masthead team/group grants supporting associated doctoral students, post-doctoral students, and other faculty members at DeGroote, McMaster, and elsewhere. The model of a virtual incubator is entirely new and given the significant expenses supporting incubation activities in Hamilton, Ontario, Canada, and worldwide, a research profile

supporting an alternative model that is both highly cost-effective and targeted to specific communities and designed to yield considerable interaction is warranted. Bringing multi-disciplinary expertise together to examine technology-based solutions in support of entrepreneurial ventures establishes a critical concentration of expertise focused on innovative solutions to entrepreneurship challenges.

The advantages of establishing a centre include the provision of institutional endorsement and administrative support necessary to facilitate applications for research and innovative sources of significant funding, as well as the administrative complexity in monitoring and managing a myriad of projects and associated sources of funding. Based on initial success in seeking funding, including an SSRC Insight Development grant for persons with disabilities (\$62,332); an SSHRC Insight grant (\$291,251), two MITACS grants (\$12,000); a McMaster Digital Transformation Centre USRA award (\$8,000); a DSB USRA award (\$7,500) a Provost Research Excellence Fund award (\$49,667) and a McMaster Covid 19 Research Fund (\$99,290) it is anticipated that the model employed will successfully attract considerable support. In addition, the institutional process of initiating and managing a formalized research centre provides a unique forum for faculty and HQP from across McMaster to engage in research projects, both because the CRCE footprint would be expanded and because a focused centre can support research activities with seed funding and resources to support further outreach for external sources of support and opportunities (prior examples include virtual incubation in medical technologies, water systems through the UNU WWB etc.).

Faculty and institutional endorsement serve as signals and barometers of credibility and legitimacy for the action research activities taking place. It will also attract other scholars interested in supporting these communities at both McMaster and worldwide. CRCE will develop specific programs that commit to equity and diversity in entrepreneurship to foster fresh ideas and perspectives that will lead to business success.

Since the introduction of its Forward with Integrity statement in 2011, McMaster has expanded its commitment to the excellence of research while seeking opportunities to integrate research more purposefully into our academic mission. The most recent Strategic Research Plan (2018-2023) highlights multidisciplinary approaches to research in collaboration with industry, government and the community. Strategically, the university has also committed to equity and diversity in entrepreneurship to foster fresh ideas and perspectives that will lead to business success. The proposed centre strengthens the institution's ability to impact across the dimensions referenced above while augmenting our ability to support the most fragile of entrepreneurial ventures as well as transitions to self-employment support through lifelong learning. CRCE aligns with two key strategic initiatives noted in the McMaster Strategic Research Plan: Equitable, Prosperous and Sustainable Societies and Data, Artificial Intelligence and the Digital Society.

The pandemic has further exacerbated matters resulting in growing inequality and a profound need to address career development and career changes that include self-employment and entrepreneurship, all capable of yielding important economic consequences. McMaster



researchers are forging innovative approaches integrating ideas from across the University to find solutions; the preliminary research under the Reframery umbrella provides a research-validated steppingstone to a much greater impact center. The creation of the proposed centre will further expand and collect resources to address solution-based approaches to assist entrepreneurs during times of enormous challenges. The second relevant strategic initiative points to the evolution of our digital society. McMaster researchers have a strong tradition of working to better understand how the digital revolution impacts individuals and transforms organizations, economies and societies at large. The particular approach by the CRCE, which differs from existing orientations, is that the digital innovations studied will be specifically designed to address inequity, particularly for marginalized communities and individuals in Canada and worldwide. These particular innovations require a targeted sensitivity as well as collaboration and buy-in from the communities being served, requiring extensive socio-cultural understanding and navigation. The CRCE sits at the intersection of emerging technologies applied toward the development of innovative solutions to pressing societal issues. Traditional approaches to entrepreneurial training and incubation are not optimal for all business contexts and for all entrepreneurs; this new centre is customized to the specific requirement of unique groups based on geographical location, minority status, prejudice and biases, and traditional and cultural norms and expectations.

Additionally, CRCE is consistent with the digital transformation strategic focus of the DeGroot School of Business. The innovative digital approach to entrepreneurial incubation represents an important shift from traditional bricks and mortar incubation approaches. The virtual model is particularly useful because it is highly cost-efficient and easy to engage in despite wide geographical boundaries. Of note is that program development can benefit from a dedicated studio for the production of entrepreneurship educational materials; however, the distribution and dissemination of the instruction are designed to be fully virtual. The CRCE will continue to focus on widely accessible entrepreneurship education in terms of implementation through the use of a 'flipped classroom,' as well as the flexible time commitment capabilities engaging both faculty and students in the consulting model.

Existing research demonstrates a significant opportunity for local, regional, provincial, national and global impact to engage in directed evidence-based support activities (Ratinho, Amezcua, Honig, & Zeng, 2020). Early research focused primarily on stakeholders developing incubation and training activities in local facilities; however, research interest has expanded to include national and global involvement. The concept of virtual support, however, is still relatively new. Members of the research team currently collaborate with scholars in Canada, the United States, Brazil and various African countries; scholars and local community partners/entrepreneurs across all jurisdictions are currently engaged. This preliminary outreach is supported through prior SSHRC funding; the Director and team members are pursuing additional support through traditional research avenues and innovative foundation sources open to applications focusing on entrepreneurship and/or blockchain-related projects. The digital incubation approach has gained traction, and there is significant interest from community stakeholders and, importantly, from entrepreneurs themselves. This approach can be replicated globally and is not dependent on an extensive brick-and-mortar infrastructure. While other virtual digital incubators do exist, they are

primarily oriented toward high-growth technology ventures and designed for advanced economies to support angel and venture capital relationships, and to facilitate high-growth firms developing in the locations where they are anchored. Their models of business planning, financial growth, marketing, and innovation are all derived from in-person incubation focusing on potential start-up activities. In contrast, CRCE will focus on addressing issues of inequality, working for SMBs who are otherwise disadvantaged due to location, war (e.g., refugees), environmental challenges, and political and social instability. Such SMB support requires dedicated and specialized interventions that are not supported by existing incubators in the start-up ecosystem globally.

Finally, an incubation centre offers important opportunities for graduate and undergraduate students to learn from, interact with, and engage in research and training activities that can lead to significant career development and academic scholarship goals. In particular, the CRCE offers the opportunity for students to engage with deserving targeted groups, women, persons with disabilities, indigenous, and other marginalized persons, developing capabilities and interests for working with these populations in everything from policy development to applied support.

**D. Criteria for expanding the membership:**

McMaster faculty members with research interests and accomplishments in areas related to scholarship supporting marginalized persons, reducing inequality, and engaging in community development issues are eligible for membership in the CRCE Research Centre (CRCE). As well, businesses, foundations, NGOs and community organizations will be welcome as CRCE members, contributing to the intellectual dialogue and ensuring that ground-up consultive research practices are maintained. Members will be invited or self-identified based on their research interests and profile. As interactions with potential academic partners (within McMaster and Internationally), NGO partners, government partners, and multi-lateral agencies expand, it is anticipated that new members will help to bring additional funding through expanded grants and alternative funding scenarios. Enhanced membership is an avenue to facilitate centre sustainability and growth. Based on experience to date, there is significant interest in pursuing the opportunity that digital entrepreneurship incubation offers for refugees. What started as a team of two researchers focusing locally on women and EDGs has already expanded significantly through presentation opportunities, word of mouth, and team outreach to new academic and non-academic partners. For example, funding (approximately \$120,000 Cdn) has been secured by Dr. Aluchna from NAWA (The Polish National Agency for Academic Exchange), covering both the travel costs and analysis costs for Drs. Honig, Aluchna and Bosek-Rak in relation to their research involving entrepreneurship opportunities among refugees from Ukraine. This small grant opened up collaboration with a Polish NGO and a new research partner Julia Koczanowicz-Chondzyńska of FISE. Similarly, conference presentations facilitated a new European network led by Michelle Richey, research head of the Global Refugee Entrepreneurship Network, which led to a keynote conference presentation at an annual conference in Venice, Italy and to alliances with additional NGOs and scholars.

The objectives of the proposed centre resonate with both scholars and potential partners. Membership expansion will be actively pursued, and Membership in the Centre will be determined by the Director in consultation with the Advisory Committee. The Director will maintain the membership list and may seek input from the Advisory Committees and the Governing Board. CRCE members are expected to be active participants in one or more of the Centre's identified research clusters and may propose new cluster areas that align with the Centre's goal and objectives and involve at least two Centre members. Members will receive communications pertaining to the Centre's activities, and where possible, share information and opportunities with other Centre members (through the Centre's online platform). They will be encouraged to engage in collaborative research, training and knowledge communication under the auspices of the Centre. Members' contributions may comprise of individual, and team research that intersects with the goal and objectives of the Centre or may involve collaboration in projects associated with the cluster themes.

**E. Detailed business plan:**

**Mission**

The Mission of the Reframery CRCE is to support research that yields communities that are not simply resilient but are prosperous and thriving. The CRCE will focus on environmentally sustainable and community-oriented research supporting diverse individuals, with a focus on marginalized and minority persons, to facilitate ingenious solutions to existing and emerging problems. The CRCE will engage in research that helps communities design socially responsible sustainable enterprises and community projects utilizing and developing evidence-based entrepreneurship research. The CRCE will engage in research and will disseminate best practices by providing entrepreneurship tools and services that guide and empower our participants to develop organizations that align with their own economic, social, and environmental goals, with the purpose of generating economic prosperity combined with environmental sustainability and social inclusion.

**Vision**

We seek to develop future generations of diverse entrepreneurs through innovative scholarship and educational services as an international leader in research, tool development and pedagogy, supporting environmentally responsible and socially inclusive entrepreneurship.

**i) Financial needs:**

The proposed Centre has received start-up funding from various University and SSHRC grants, as well as an annual commitment of 1/5 support person from the Dean of the DeGroote School of Business as well as support from other units such inclusive of Research Services and the Information Technology and Teaching & Learning Services team. In addition, the Centre is requesting the following support for institutional overhead.

**See accompanying EXCEL spreadsheet Appendix A.**

The research programs of faculty members affiliated with the proposed Centre will be supported and recognized by substantial external grants (SSHRC, NSERC (as appropriate with regard to community currency component), NFRF, CFI etc.). With additional funding from pending and future grant applications, it is anticipated that external research funding will supplement the financial resources provided by McMaster. Moreover, the Centre will actively and strategically seek additional resources and external support from key stakeholders in the entrepreneurship and/or technology ecosystems. A regular feature of Centre activities will be the hosting of workshops and conferences, often involving applications to SSHRC's Connection Grant program focusing on virtual incubation and community currencies.

As the conversation between Centre members about shared research deepens, we will look for increased opportunities to support the development of joint funding applications, including applications to foundations and additional applications to SSHRC, with a goal of building first a Canadian hub, followed by an international centre. In addition to supporting the new projects arising from the Centre's facilitated research clusters, CRCE will bring together individual researchers and groups of researchers who continue to undertake their own independently funded initiatives. Thus, we expect that the level of activity connected to the Centre will be much higher than the "core" budget might suggest.

**ii) Anticipated and secured sources of support:**

The secured finances and sources of funding include an SSRC insight development grant for persons with disabilities (\$62,332); an SSHRC insight grant (\$291,251), Provost Excellence research fund (\$49,000) ongoing allocation of a USRA award from DSB, two MITACS grants (\$12,000); a McMaster Digital Transformation grant (\$8,000); and a McMaster Covid 19 Research Grant fund (\$99,290). This is in addition to annual support from DSB towards the operation of the Centre.

**iii) Space needs:**

CRCE will be located in the new DSB building (to be completed in 2025) as part of the planned entrepreneurship floor, connecting undergraduate students, graduate students, and the community in this active virtual incubation activity. The space will include offices for the Director and research personnel, as well as an open, multi-use studio for developing additional virtual content in support of the incubation and community currency activities. Space will be requested for the use of the CRCE as a studio, a virtual classroom, a community board room, and a relevant office space/cube. The center will feature audiovisual conferencing and virtual education equipment to facilitate meetings with research partners in other countries, including persons with disabilities. Start-up funds and an application to CFI will enable CRCE to acquire high-performance cameras, computers and software for digitization and analyses of video, audio and textual data. The faculty will also facilitate the development of a secure intellectual property regime for the centre.

Part of the long-term development plans for CRCE is to establish a virtual entrepreneurship research Laboratory within the space currently allocated to the Centre. This research lab will

include infrastructure for media recording, digitization and editing. It will provide technical services, support and consultation in the areas of qualitative research methodology, multimedia recording, digitization, curation and preservation. It will include acoustically managed sound booths for interview sessions and technical facilities for transcription and for converting analog audio/video to digital formats. This lab will also support diffusion through different McMaster faculties as discreet teaching modules, and with MCYU.

**iv) Human Resource needs:**

The DSB will support the annual teaching release for the Centre's Director equivalent to one course (or 3 units of teaching). It is expected that the yearly expenses of the CRCE will include the ongoing cost of a part-time Research Coordinator and student research assistants trained in digital research who will work with members on individual or group projects. Research staff and students who work for the Centre will report to the Centre's Director and support the Director in planning, implementing and overseeing the activities of CRCE.

In addition, the DSB will provide in-kind staff support from the Information Technology and Teaching & Learning Services team. The DSB will provide valuable technical and computing expertise to the Centre during the critical set-up phase, and on an ongoing basis to ensure the maintenance and renewal of our video and virtual support research infrastructure as well as our ongoing intellectual property. This will include providing advice on equipment and software purchase, identifying research needs and support for database/website development, copywriting and patenting innovative ideas, and protecting our intellectual property. Resources for funding identification and grant development purposes will also be possible through DSB's Research Services team. Administrative Assistant support will support the Director in managing logistical and administrative components associated with website updates, meeting coordination, and other general administrative assistance. CRCE will continue to work closely with the DSB on technical support and on the plans to establish a virtual training studio, as well as develop advanced technical support capabilities for community interaction and intra-action with our community outreach services.

**F. Organizational Structure:**

**Governing Board** *will consist of*

1. Dean, DeGroote School of Business (Chair)
2. Associate Dean, Research, DeGroote School of Business
3. Associate Dean, Research Engineering or delegate
4. Associate Dean, Research Social Sciences or delegate
5. Associate Dean, Research Humanities or delegate
6. Associate Dean, Graduate Studies, from one of the associated faculties<sup>2</sup>
7. Area Chair, Human Resources and Management

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<sup>2</sup> Given that the proposed CRCE research focus integrates significant opportunities for graduate students training and development, it will engage an Associate Dean of Graduate Studies from one of the associated Faculties on the Governing Board to inform the graduate integration pieces.

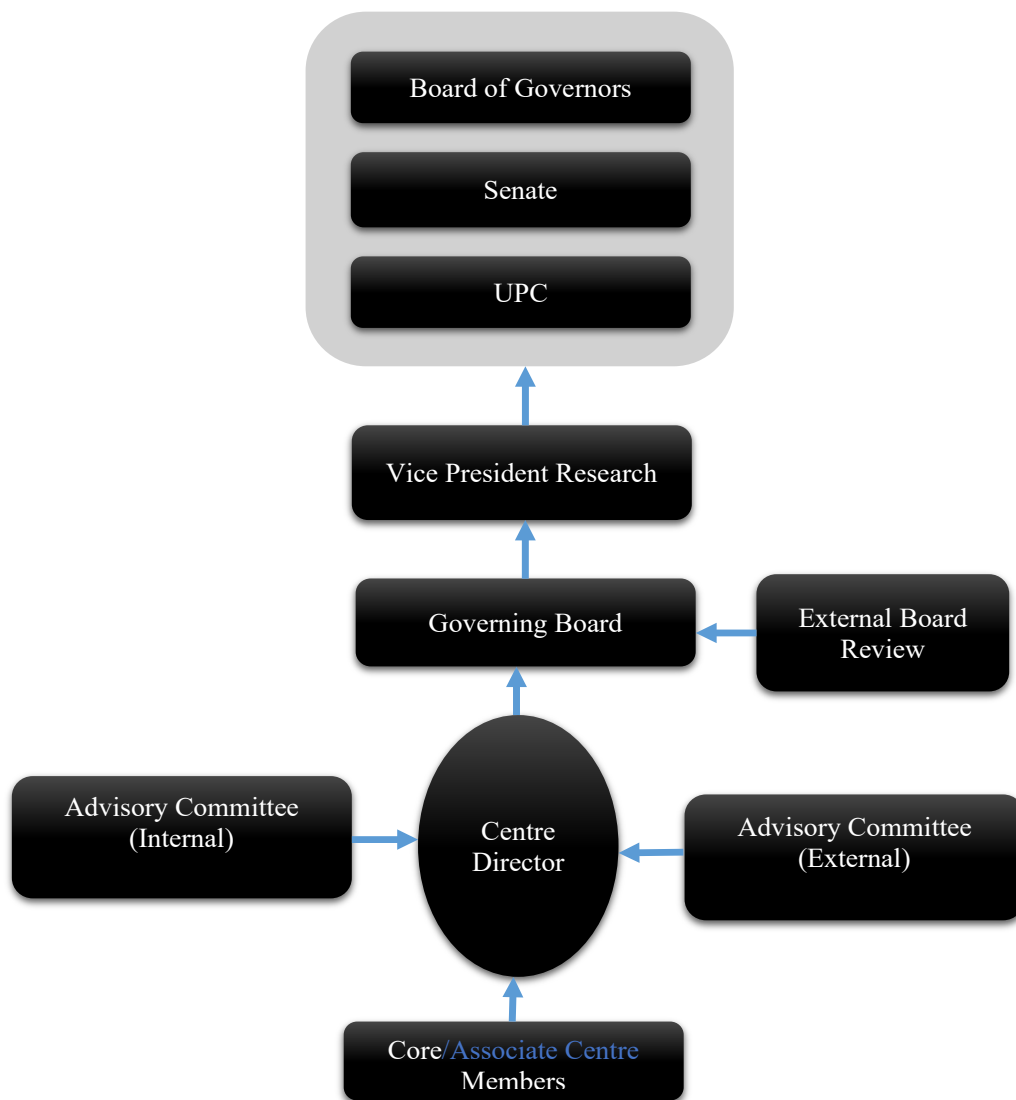
ii) **Advisory Committees Internal and External:**

- The Director will establish two Advisory Committees (AC's), an internal and an external, whose purpose is to provide advice to the Director with regard to scientific or scholarly priorities and direction for the Centre. The AC's are chosen by the Director, and are consulted at least every two years, or more frequently at the discretion of the Director.

iii) **Associate members:**

- See Appendix C.

**Organizational Chart Overview:**



The Centre will report directly to the Dean of the DSB. Its governance structure will comply with the requirements of the McMaster Guidelines for the Governance and Review of Research Institutes, Centres and Groups. The principal administrative roles connected to the Centre are a Director, a Governing Board, and an External Advisory Board.

**iii) Director**

The Director will be a faculty member of the Faculty of the DSB who will be appointed for a five-year, renewable term by the Senate and Board of Governors upon the recommendation of the Dean of the DSB to whom the Director will report. The Director will set the agenda for the Centre in consultation with the Governing Board and External Advisory Board. The Director will report directly to the Dean of the DSB, with whom final authority for all matters regarding the direction and operation of the Centre rests and will work in collaboration with the Associate Dean (Research) of the DSB. The Director will submit a written report annually to the Governing Board, which will be chaired by the Dean of the DSB (or delegate). This report will also inform the annual reporting and five-year external review process required of all McMaster RCIs.

Dr. Benson Honig, Teresa Cascioli Chair in Entrepreneurial Leadership, DeGroote School of Business, McMaster University is a strong candidate to serve as Director.

**Core Members**

The core members include relevant faculty from McMaster, including DeGroote, Engineering, Humanities, and Sociology, as well as the co-founder of Reframery. The core members are as follows:

| Name                | Position & Affiliation  |
|---------------------|---|
| Benson Honig        | Professor, Human Resources & Management<br>DeGroote School of Business                            |
| Sash Vaid           | Assistant Professor, Marketing<br>DeGroote School of Business                                     |
| Khaled Nainar       | Professor, Accounting & Financial Management Services<br>DeGroote School of Business              |
| Emad<br>Mohammad    | Associate Professor, Accounting & Financial Management<br>Services<br>DeGroote School of Business |
| Baniyelme<br>Zoogah | Associate Professor, Human Resources & Management<br>DeGroote School of Business                  |
| Yoontae Jeon        | Assistant Professor, Finance and Business<br>DeGroote School of Business                          |
| Sandeep Raha        | Associate Professor,<br>Health Sciences.<br>Director, MCYU  |
| Trish Ruebottom     | Associate Professor, Human Resources & Management<br>DeGroote School of Business                  |

|                 |   |
|-----------------|---|
| Addisu Lashitew | Assistant Professor, Strategic Management<br>DeGroot School of Business   |
| Brent McKnight  | Associate Professor, Strategic Management<br>& Director, Integrated Business and Humanities (IBH)<br>DeGroot School of Business   |
| Jacques Carette | Associate Professor of Computer Science and Software<br>Engineering<br>Department of Computing and Software   |
| Jelle Hellings  | Assistant Professor, Department of Computing and Software   |
| James Gillett   | Associate Professor in Health, Aging and Society and Associate<br>Dean<br>Faculty of Social Sciences  |
| Nancy Doubleday | Associate Professor, Philosophy<br>Faculty of Humanities  |
| Ana Siqueira    | -Associate Professor and Director of the Center for Socially<br>Responsible Entrepreneurship and Innovation at William Paterson<br>University<br>-Co-Founder of the Reframery |

#### **Advisory Committee (External)**

The Director will establish an External Advisory Committee whose purpose is to provide expert national and international advice to the Director with regard to scholarly priorities and strategic directions for the Centre. Members of the external AC are chosen by the Director and will be consulted at least every year or more frequently at the discretion of the Director.

#### **Advisory Committee (External) Members:**

| <b>Name</b>       | <b>Faculty or Institution</b>                   | <b>Expertise/Role</b>   |
|-------------------|---|---|
| Anne Connelly     | MBA DSB Alumni                                  | Social Impact and Blockchain  |
| Lorne Lantz       | MBA DSB Alumni                                  | Founder of Breadcrumbs (the blockchain investigative tool)  |
| Monder Ram (OBE)  | Professor at Aston University, United Kingdom   | Director of the Centre for Research in Ethnic Minority Entrepreneurship (CREME)                               |
| John Chinnick     | CEO   | Invisible Sky   |
| Mikael Samuelsson | Professor University of Cape Town, South Africa | Entrepreneurship and Strategy; opportunity recognition; business models; social impact; experiential learning |
| Shahamak Rezaei   | Department of Social Sciences & Business,       | EU Horizon 2020 Research Coordinator; Marie Curie Fellow; Diaspora Link Research Coordinator;                 |



|  |                                 |  |
|--|---------------------------------|--|
|  | Roskilde University,<br>Denmark | Associate Editor Int. Journal of<br>Business & Globalisation |
|--|---------------------------------|--|

Other relevant advisory board members will be identified with assistance from McMaster Advancement and Development - TBD

**Advisory Committee (Internal)**

An Internal Advisory Committee (IAC) of 6 members will be formed and will include and be chaired by the Centre’s Director. Once the CRCE is approved, relevant advisory committee members will be solicited from the various McMaster faculties represented by the membership of the centre. Five McMaster faculty members who are also members of the Centre will be appointed to the internal AC for 3-year renewable terms. Appointments will be made by the Centre’s Director in consultation with the full membership. The internal AC will advise the Director on research and scholarly priorities, as well as programming and strategic directions. It will assist the Director by reviewing the preliminary report of Centre activities and budget before submission to the Governing Board. The IAC will be consulted on an ongoing basis electronically, scheduling formal in-person meetings as necessary.

The advisory committee is to be appointed in conjunction with the Dean, DeGroot School of Business.

**Governing Board**

The Governing Board will comprise the Dean of DSB (who normally chairs the Governing Board) and the Associate Dean (Research) of the DSB, Associate Deans Research (or their appointed representative) for Engineering, Humanities and Social Sciences and the Area Chairs. The GB will receive a report from the Centre Director on an annual basis, including an update of the Centre’s business plan, its financial viability, and its progress toward meeting goals.

**External Board Review**

The Centre Review Board (CRB) will be appointed by the Dean of the DSB, or designate, every five years. The Dean will determine the composition of the CRB, which may consist of external or internal reviewers and will provide an assessment of the Centre’s performance in terms of its aspirations and the status, progress and plans associated with its research program. The CRB will be provided with the Guidelines for the Governance and Review of Research Institutes, Centres and Groups to guide its review, and will submit a report to the Dean of Business.

**Additional Membership**

CRCE will remain open to expanding the leadership of relevant Directors, Core members, Associated Members, External and Internal Advisory Members, according to interests and demonstrated collaborations, through linkages developed with academic partners, NGO partners, government partners, and multi-lateral agencies. While each specific position will be

adjudicated after consultation with the Dean and the Governing Board, the overall objective will be to encourage active participation and community 'buy-in' on the part of additional participating members. In order to expedite such additions, each relevant board will annually evaluate their membership, activities, and potential support with a focus on inclusion, diversity, and relevant participation of new committed members.

## References

- 104 most established Accelerators and Incubators in Canada, March 26, 2000. Viewed Nov 22, 2022, at <https://www.failory.com/startups/canada-accelerators-incubators>
- Albort-Morant, G., & Oghazi, P. (2016). How useful are incubators for new entrepreneurs?. *Journal of Business Research*, 69(6), 2125-2129.
- Amezcuca, A. S., Grimes, M. G., Bradley, S. W., & Wiklund, J. (2013). Organizational sponsorship and founding environments: A contingency view on the survival of business-incubated firms, 1994–2007. *Academy of Management Journal*, 56(6), 1628-1654.
- Amezcuca, A., Ratinho, T., Plummer, L. A., & Jayamohan, P. (2019). Organizational sponsorship and the economics of place: How regional urbanization and localization shape incubator outcomes. *Journal of Business Venturing*, 105967
- Autio, E., Nambisan, S., Thomas, L. D., & Wright, M. (2018). Digital affordances, spatial affordances, and the genesis of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, 12(1), 72-95.
- Bøllingtoft, A., & Ulhøi, J. P. (2005). The Business Incubator in a network perspective. *Journal of Business Venturing*, 20(2), 265-290.
- Croteau, M., Grant, K. A., Rojas, C., & Abdelhamid, H. (2021). The lost generation of entrepreneurs? The impact of COVID-19 on the availability of risk capital in Canada. *Journal of Entrepreneurship in Emerging Economies*.
- Davidsson, P, Honig, B. (2003) The role of social and human capital among nascent entrepreneurs, *Journal of Business Venturing* Vol 18(3): 301-331
- Hackett, S. M., & Dilts, D. M. (2004). A systematic review of business incubation research. *The Journal of Technology Transfer*, 29(1), 55-82.
- Honig, B. (2004) Entrepreneurship education: Toward a model of contingency-based business planning. *Academy of Management Learning and Education* Vol 3(3):258-273
- Honig, B. (2021) Inclusivity Management Research; Persons with Disabilities and Self-Employment Activity as an Exemplar. *Encyclopedia of Business and Professional Ethics*, Springer Publishing
- Honig, B (forthcoming) Background Report on Policy Support for Entrepreneurship for People who Experience Disability, OECD, (Organization for Economic and Community Development) March 2021
- Honig, B., Lampel, J., Drori, I. (2014). Handbook of Organizational and Entrepreneurial Ingenuity Edward Elgar Publishing.
- Honig, B. (2000). Small business promotion and microlending: A comparative assessment of Jamaican and Israeli NGO's. *Journal of Microfinance*

- Honig, B; Samuelsson, M. (2020). Business Planning by Intrapreneurs and Entrepreneurs under Environmental Uncertainty and Institutional Pressure. *Technovation*
- Honig, B; Karlsson, T. (2010). Social Capital and The Modern Incubator: A Comparison of In-group and Out-group Social Networks. *Journal of Small Business and Entrepreneurship*
- De Clercq, D; Honig, B. (2011) Entrepreneurship as an integrating mechanism for disadvantaged persons. *Entrepreneurship and Regional Development*. Vol 23(5-6): 353-372
- Key small business Statistics, government of Canada, 2020 (2021) Viewed Aug 18, 2022, at [https://www.ic.gc.ca/eic/site/061.nsf/eng/h\\_03126.html#2.2](https://www.ic.gc.ca/eic/site/061.nsf/eng/h_03126.html#2.2)
- Klyver, K; Honig, B; Steffens, P. (2018). Social Support Timing and Persistence in Nascent Entrepreneurship *Small Business Economics*
- Klyver, K; Steffens, P; Honig, B. (forthcoming). Psychological Factors Explaining Ukrainian Refugee Entrepreneurs' Venture Idea Novelty. *Journal of Business Venturing Insights*
- Martin, B., Honig, B. (2019) Inclusive Management Research: Persons with Disabilities and Entrepreneurial Activity as an Exemplar. *Journal of Business Ethics*. 166 (3) 553-575
- Mason, C., & Brown, R. (2014). Entrepreneurial ecosystems and growth-oriented entrepreneurship. *Final report to OECD, Paris*, 30(1), 77-102.
- McKnight, B. (2019). The Role of Firms in Resilient Systems: A Multi-Level Framework. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, 36(2), 221-230.
- Mo, G., Cukier, W., Atputharajah, A., Boase, M. I., & Hon, H. (2020). Differential impacts during COVID-19 in Canada: A look at diverse individuals and their businesses. *Canadian Public Policy*, 46(S3), S261-S271.
- Nicholls, A. (2010). The legitimacy of social entrepreneurship: Reflexive isomorphism in a pre-paradigmatic field. *Entrepreneurship theory and practice*, 34(4), 611-633.
- Ratinho, T; Amezcua, A; Honig, B, Zeng, Z. (2020). Supporting Entrepreneurs: A Systematic Review of Literature and an Agenda for Research Technological Forecasting and Technical Change. 154
- Reid, J. (2012). The disastrous and debased subject of resilience development. *Dialogue*, 58, 67-81.
- Ruebottom, T., & Toubiana, M. (2021). Constraints and opportunities of stigma: Entrepreneurial emancipation in the sex industry. *Academy of Management Journal*, 64(4), 1049-1077.

- Siqueira, A. C, & Honig, B. (2019). Entrepreneurs' ingenuity and self-imposed ethical constraints: creating sustainability-oriented new ventures and knowledge. *Journal of Knowledge Management*.
- Siqueira, A; Honig, B; Mariano, S; Moraes, J. (2020) A Social Commons Strategy for Promoting Entrepreneurship: Community Currencies Issued by Microfinance Organizations *Journal of Business Ethics*, 1-16.
- Siqueira, A, Honig, B, Nafari, J. (2022) Entrepreneurial Ingenuity Enabled by Information Technology: Insights for Women Entrepreneurship Paper presentation at the Academy of Management, Seattle, Aug. 6, 2022.
- Sowa, J., Selden, S., and Sandfort, J. 2004. No longer measurable? A multidimensional integrated model of nonprofit organizational effectiveness. *Nonprofit and Voluntary Sector Quarterly*, 33, 711-728.
- Spigel, B., & Harrison, R. (2018). Toward a process theory of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, 12(1), 151-168.
- Stam, E., & Van de Ven, A. (2021). Entrepreneurial ecosystem elements. *Small Business Economics*, 56(2), 809-832.
- Sutter, C., Bruton, G. D., & Chen, J. (2019). Entrepreneurship as a solution to extreme poverty: A review and future research directions. *Journal of business venturing*, 34(1), 197-214.
- Toubiana, M., & Ruebottom, T. (2022). Stigma Hierarchies: The Internal Dynamics of Stigmatization in the Sex Work Occupation. *Administrative Science Quarterly*, 00018392221075344.
- Theodorakopoulos, N., Kakabadse, N. K., & McGowan, C. (2014). What matters in business incubation? A literature review and a suggestion for situated theorising. *Journal of small business and enterprise development*
- Wurth, B., Stam, E., & Spigel, B. (2021). Toward an entrepreneurial ecosystem research program. *Entrepreneurship Theory and Practice*.

**APPENDIX A**

**Research Centre or Institute Budget Template**

*Please include additional detail in Proposal if necessary*

|   | 2023              | 2024              | 2025              | 2026              | 2027              | Total               | \$ Secured       | \$ Anticipated   |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|---------------------|------------------|------------------|
| <b>OPENING BALANCE/CARRY FORWARD</b>  |                   | \$ 297,907        | \$ 312,706        | \$ 53,907         | \$ 244,407        |                     |                  |                  |
| <b>REVENUE - indicate whether secured or anticipated</b>  | 2023              | 2024              | 2025              | 2026              | 2027              | Total               | \$ Secured       | \$ Anticipated   |
| <i>Please ensure that any anticipated revenue from grant funding will only support costs eligible for that grant and note funding available for indirect or general operations.</i> |                   |                   |                   |                   |                   |                     |                  |                  |
| SSHRC Insight Grant   | \$ 222,151        |                   |                   | \$300,000         |                   |                     | \$222,152        | \$300,000        |
| SSHRC Insight Development Grant   | \$ 41,207         |                   |                   |                   |                   | \$ 41,207           | \$ 41,207        |                  |
| SSHRC Connection Grant  |                   | \$ 25,000         |                   | \$ 25,000         |                   |                     |                  | \$ 50,000        |
| Provost Research Excellence Fund Grant  | \$ 49,667         |                   |                   |                   |                   | \$ 49,667           | \$ 49,667        |                  |
| New Frontiers Research Fund-Post Pandemic Call Fund   | \$ 118,381        |                   |                   |                   |                   | \$ 118,381          |                  | \$118,381        |
| SSHRC Partnership Development   |                   |                   | \$200,000         |                   |                   |                     |                  | \$200,000        |
| Donor/Partner Contributions   |                   | \$ 10,000         | \$ 15,000         | \$ 20,000         | \$ 20,000         | \$ 65,000           |                  | \$ 65,000        |
| Faculty Allocation of CFI JELF Envelope of \$129,299 (plus ORF-RI match)  |                   | \$ 258,598        |                   |                   |                   | \$ 258,598          |                  | \$258,598        |
| Faculty Allocation of Administrative Support  | \$ 11,000         | \$ 11,000         | \$ 11,000         | \$ 11,000         | \$ 11,000         | \$ 55,000           | \$ 55,000        |                  |
| Faculty Allocation of USRA  | \$ 7,500          | \$ 7,500          | \$ 7,500          | \$ 7,500          | \$ 7,500          | \$ 37,500           | \$ 37,500        |                  |
| Information Technology and Teaching & Learning Services team (in-kind)  | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 50,000           | \$ 50,000        |                  |
| Partner Relations/Research Advisor  | \$ 16,000         | \$ 16,000         | \$ 16,000         | \$ 16,000         | \$ 16,000         | \$ 80,000           | \$ 80,000        |                  |
| Faculty Cash Contributions  | \$ 50,000         | \$ 50,000         | \$ 50,000         | \$ 50,000         | \$ 50,000         | \$ 250,000          | \$ 250,000       |                  |
| <b>TOTAL REVENUE</b>  | <b>\$ 525,907</b> | <b>\$ 388,098</b> | <b>\$ 309,500</b> | <b>\$ 439,500</b> | <b>\$ 114,500</b> | <b>\$ 1,777,505</b> | <b>\$785,526</b> | <b>\$991,979</b> |
| <b>EXPENSES</b>   | Insert year       | Insert year       | Insert year       | Insert year       | Insert year       | Total               | \$ Secured       | \$ Anticipated   |
| <b>Administrative Expenses: (add rows as required)</b>  |                   |                   |                   |                   |                   |                     |                  |                  |
| Administrative Personnel  |                   |                   |                   |                   |                   | \$ -                |                  |                  |
| Administrative Assistant  | \$ 11,000         | \$ 11,000         | \$ 11,000         | \$ 11,000         | \$ 11,000         | \$ 55,000           |                  |                  |
| Centre Director Stipend   | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 25,000           |                  |                  |
| Information Technology and Teaching & Learning Services team  | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 50,000           |                  |                  |
| Partner Relations/Research Advisor  | \$ 16,000         | \$ 16,000         | \$ 16,000         | \$ 16,000         | \$ 16,000         | \$ 80,000           |                  |                  |
| Office Supplies:  |                   |                   |                   |                   |                   | \$ -                |                  |                  |
| Standard Office Supplies  | \$ 1,000          | \$ 1,000          | \$ 1,000          | \$ 1,000          | \$ 1,000          | \$ 5,000            |                  |                  |
| Office Equipment:   |                   |                   |                   |                   |                   | \$ -                |                  |                  |
| Computing Needs   | \$ 6,000          | \$ 2,000          | \$ 2,000          | \$ 2,000          | \$ 2,000          | \$ 14,000           |                  |                  |
| Dedicated Computer Servers  | \$ 20,000         | \$ 2,000          | \$ 2,000          | \$ 2,000          | \$ 2,000          | \$ 8,000            |                  |                  |
| Video lab/studio/BCC adaption/analysis module   |                   |                   | \$ 200,000        | \$ 5,000          | \$ 5,000          | \$ 210,000          |                  |                  |
| Travel:   |                   |                   |                   |                   |                   | \$ -                |                  |                  |
| Annual advisory, governing board meetings   | \$ 3,500          | \$ 3,500          | \$ 3,500          | \$ 3,500          | \$ 3,500          | \$ 17,500           |                  |                  |
| Five Year Review  |                   |                   |                   |                   | \$ 3,500          | \$ 3,500            |                  |                  |
| Meeting expenses:   |                   |                   |                   |                   |                   | \$ -                |                  |                  |
| Hosting Partners  | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 25,000           |                  |                  |
| Workshops   |                   | \$ 3,000          | \$ 3,000          | \$ 3,000          | \$ 3,000          | \$ 12,000           |                  |                  |
| Catering for Advisory, governing board meetings   | \$ 500            | \$ 500            | \$ 500            | \$ 500            | \$ 500            | \$ 2,500            |                  |                  |
| Speaker Series  | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 50,000           |                  |                  |
| Communications:   |                   |                   |                   |                   |                   | \$ -                |                  |                  |
| Reports, publications, website, advertisements  | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 25,000           |                  |                  |
| E-Books and diffusion manuals   |                   | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 40,000           |                  |                  |
| Renovations:  |                   |                   |                   |                   |                   | \$ -                |                  |                  |
| Ongoing costs for space:  |                   |                   |                   |                   |                   | \$ -                |                  |                  |
| <b>Total Administrative Expenses</b>  | <b>\$ 93,000</b>  | <b>\$ 84,000</b>  | <b>\$ 284,000</b> | <b>\$ 89,000</b>  | <b>\$ 92,500</b>  | <b>\$ 652,500</b>   | <b>\$ -</b>      | <b>\$ -</b>      |
| <b>Research Expenses: (add rows as required)</b>  |                   |                   |                   |                   |                   |                     |                  |                  |
| Research Personnel:   |                   |                   |                   |                   |                   | \$ -                | Secured          | Anticipated      |
| PhD Research Coordinator  | \$ 30,000         | \$ 30,000         | \$ 30,000         | \$ 30,000         | \$ 30,000         | \$ 150,000          |                  |                  |
| Postdoctoral fellow   | \$ 67,000         | \$ 67,000         | \$ 67,000         | \$ 67,000         | \$ 67,000         | \$ 335,000          |                  |                  |
| USRA  | \$ 7,500          | \$ 7,500          | \$ 7,500          | \$ 7,500          | \$ 7,500          | \$ 37,500           |                  |                  |
| Research Supplies:  |                   |                   |                   |                   |                   | \$ -                |                  |                  |
| Research Equipment:   |                   |                   |                   |                   |                   | \$ -                |                  |                  |

|                                   |  |                   |                   |                   |                   |                   |                     |
|-----------------------------------|--|-------------------|-------------------|-------------------|-------------------|-------------------|---------------------|
|                                   | Faculty Allocation of CFI JELF Envelope of \$129,299<br>(plus ORF-RI match) for Studio and Servers |                   | \$ 99,299         | \$ 129,299        |                   |                   | \$228,598           |
|                                   |  |                   |                   |                   |                   |                   | \$ -                |
| Travel:                           |  |                   |                   |                   |                   |                   |                     |
|                                   | New Partner Engagement   | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 25,000           |
|                                   | Conference Attendance  | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 10,000         | \$ 50,000           |
| Meeting expenses:                 |  |                   |                   |                   |                   |                   |                     |
|                                   | Quarterly meetings   | \$ 500            | \$ 500            | \$ 500            | \$ 500            | \$ 500            | \$ 2,500            |
|                                   | Bi-Annual Conference costs   |                   | \$ 25,000         |                   | \$ 25,000         |                   | \$ 50,000           |
| Communications:                   |  |                   |                   |                   |                   |                   |                     |
|                                   | E books/manuals for replication  |                   | \$ 10,000         |                   | \$ 10,000         |                   | \$ 20,000           |
|                                   | Web development costs  | \$ 15,000         | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 5,000          | \$ 35,000           |
| Renovations:                      |  |                   |                   |                   |                   |                   |                     |
|                                   | Studio development (from CFI)  |                   | \$ 30,000         |                   |                   |                   | \$ 30,000           |
| Ongoing costs for space:          |  |                   |                   |                   |                   |                   |                     |
|                                   |  |                   |                   |                   |                   |                   | \$ -                |
|                                   |  |                   |                   |                   |                   |                   | \$ -                |
|                                   |  |                   |                   |                   |                   |                   | \$ -                |
| <b>Total Research Expenses</b>    |  | <b>\$ 135,000</b> | <b>\$ 289,299</b> | <b>\$ 254,299</b> | <b>\$ 160,000</b> | <b>\$ 125,000</b> | <b>\$ 963,598</b>   |
| <b>TOTAL EXPENSES</b>             |  | <b>\$ 228,000</b> | <b>\$ 373,299</b> | <b>\$ 538,299</b> | <b>\$ 249,000</b> | <b>\$ 217,500</b> | <b>\$ 1,586,098</b> |
|                                   |  |                   |                   |                   |                   |                   | \$ -                |
| <b>IN-YEAR (Surplus/ Deficit)</b> |  | <b>\$ 297,907</b> | <b>\$ 312,706</b> | <b>\$ 83,907</b>  | <b>\$ 274,407</b> | <b>\$ 171,407</b> |                     |

|                                    |                     |
|------------------------------------|---------------------|
| <b>Funding and Expense Summary</b> |                     |
| Opening Balance (Year 1)           | \$ -                |
| Total Revenue (Total Years)        | \$ 1,777,505        |
| <b>Total Available Funding</b>     | <b>\$ 1,777,505</b> |
| Total Expenses (Total Years)       | \$ 1,586,098        |
| <b>Net Position</b>                | <b>\$ 191,407</b>   |

**Notes:**

1- DeGroot and the DeGroot members of the CRCE have had significant success in securing funding from SSHRC in the past and this is highly anticipated to continue given the significance of the proposal. For example, the strong candidate for the Director role, has been continuously funded by SSHRC (15 grants in total). Other members have also been successful with this agency.

2- The Faculty of Business has offered a CFI JELF allocation to the CRCE and the grant application is under development, success rates for this program are very high.

3- The New Frontiers program can be challenging however the submitted project aligns with the mandate of the call for proposals and the team is committed to resubmission if required. The amount indicated accounts for the success rate and is approximately 6.65% of the total revenue.

4- All expenses charged to research funding sources referenced above will be eligible as per the policies of the respective agency.

## **Appendix B Ongoing Relevant Research Activities**

*With Ana Siqueira, Ana Cristina O. Siqueira, Associate Professor Director, Center for Socially Responsible Entrepreneurship and Innovation; Cotsakos College of Business; William Paterson University; Wayne, New Jersey and Javid Nafari, McMaster University*

- Information Technology as Enabler of Entrepreneurial Ingenuity: Insights for Women Entrepreneurship (under second review)
- Design of Socially Responsible New Ventures: Insights Inspired by Paulo Freire for Creating Socio-Economic and Environmental Change through Entrepreneurship (under review)
- Using Entrepreneurial Ingenuity in Online Environments: Creating Opportunities for Business Evolution and Social Impact.

*With Anjali Chawla, McMaster University*

- The role of student's agency in shaping entrepreneurship education outcomes: Dissonance alleviation work

*With Eileen Kwesiga, Professor & Chair of Management Department; Bryant University, Rhode Island, USA and Javid Nafari, Doctoral Student, McMaster University*

- Supporting Marginalized Kenyan Sex Workers with a Virtual Incubator

*With Ana Siqueira, Ana Cristina O. Siqueira, Associate Professor Director, Center for Socially Responsible Entrepreneurship and Innovation; Cotsakos College of Business; William Paterson University; Wayne, New Jersey; Sandra Mariano, Professor, Departamento de Empreendedorismo e Gestão, Universidade Federal Fluminense Brazil; Joysi Moraes, Associate Professor, Departamento de Empreendedorismo e Gestão, Universidade Federal Fluminense Brazil;*

- How does autonomy culture shape the actions of women social investors? Engaging diverse stakeholders and self-designing innovative entrepreneurial models (under review)

*With Moder Ram, Professor, Aston Business School, Birmingham UK and Shuai Kin, Aston Business School, Birmingham UK*

- Enabling or excluding? The role of refugee business support in promoting refugee integration

*With Mikael Samuelsson, Professor, Graduate School of Business, University of Cape Town*

- An international comparison of entrepreneurial business planning practices and its impact on new ventures, (under second review).

*With Sash Vaid, McMaster University, DeGroot School of Business*

- Customer related executive leadership turnover and firm performance: A dilemma of firm-level human resource contingencies.



With Florian Koehne, Johannes Kepler University Linz; Benson Honig, McMaster University and Richard Woodward, The University of Edinburgh.

- An institutional nexus perspective on social entrepreneurship

With Kim Klyver, University of Southern Denmark, and Paul Steffens, University of Adelaide, Australia.

- More of the Same? Impact of Consistent versus Variable Social Support on New Venture Growth.

### Appendix C Associated Member List

| <b>Associate Members</b>   |   |   |
|--|---|---|
| Definition of Associate Member: <i>Associate members are faculty members that are engaging in research projects in partnership with the Centre Director and other core members. Their research is related to the activities of the Centre and have in certain cases been named on application(s) submitted by the Director. The industry associate members are also working with the Centre members to support the research and/or are named on an application under review.</i> |   |   |
| Obligations for Associate Members: Associate members will follow the ethics protocol as determined by McMaster University in all jointly sponsored research projects. They will also collaborate in grant writing and share in funding as appropriate.   |   |   |
| <b>Name</b>  | <b>Faculty or Institution (if external to McMaster)</b> | <b>Expertise</b>  |
| Anne Connelly (TBD) <sup>3</sup>   | Social Impact   | Blockchain firm, Canada                                       |
| Lorne Lantz (TBD)  | Former MBA DSB  | Blockchain Expert, USA  |
| Michelle Richey  | Loughborough University                                 | Refugee Entrepreneurship, UK                                  |
| Maria Aluchna  | University of Warsaw, Poland                            | Economics and boards of directors, Poland                     |
| Monder Ram   | Aston University, UK; CREM center                       | Ethnic entrepreneurship, Immigration and entrepreneurship, UK |
| Shahamk Rezaei (TBD)   | Roskilde University, Denmark                            | Immigrant entrepreneurship, Denmark                           |
| Kim Klyver   | University of Southern Denmark                          | Social Support, Denmark                                       |
| Daniela Bolzani  | University of Bologna, Italy                            | Immigrant Entrepreneurship, Italy                             |
| Felix Macharia   | CEO Kotani Pay  | Blockchain Expert, Kenya                                      |

<sup>3</sup> TBD is to be determined. These individuals have not formally agreed and should not be contacted

|                               |   |   |
|-------------------------------|---|---|
| John Chinnick                 | CEO Invisible Sky   | Community partner, expert private sector advisor and mentor   |
| Julia Koczanowicz-Chondzyńska | FISE Fundacja Inicjatyw Społeczno-Ekonomicznych                               | Community NGO supporting Ukrainian Refugees in Poland   |
| Marta Pachocka                | / Assistant Professor<br>Współkierownik projektu H2020 Welcoming Spaces w SGH | / Co-manager of the H2020 Welcoming Spaces project at Warsaw School of Economics (SGH), Poland  |
| Dominika Bosek-Rak            | Assistant Professor   | Warsaw School of Economics (SGH) immigrant entrepreneurship gender, Poland  |
| Alexandra David               | Researcher  | Refugee Entrepreneurship, Westphalian University; Institute for Work & Technology; Research Department INNOVATION, SPACE & CULTURE, Germany |
| <u>Mikael Samuelsson</u>      | Professor <u>University of Cape Town, South Africa</u>                        | Entrepreneurship and Strategy; opportunity recognition; business models; social Impact; experiential learning                               |
| Joseph Lampel                 | Professor, Manchester University Business School                              | Strategy, Organization Theory   |
| Michelle Richey               | Professor, University of Loughborough   | Refugee Entrepreneurship  |
|                               |   | <i>insert additional rows as required</i>   |
|                               |   |   |



**School of Graduate Studies**

1280 Main Street West  
Hamilton, Ontario, Canada  
L8S 4M2

Phone 905.525.9140  
Ext. 23679  
Fax 905.521.0689  
<http://www.mcmaster.ca/graduate>

To : University Planning Committee

From : Christina Bryce  
Assistant Graduate Secretary

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At its meeting on March 21<sup>st</sup>, Graduate Council approved the cancellation of the Advanced Neonatal diploma.

Graduate Council now recommends that the University Planning Committee approve the cancellation of the Advanced Neonatal diploma as outlined in the attached.

Attachment

**RECOMMENDATION FOR CHANGE IN GRADUATE CURRICULUM - FOR CHANGE(S) INVOLVING DEGREE PROGRAM REQUIREMENTS / PROCEDURES / MILESTONES**

**IMPORTANT: PLEASE READ THE FOLLOWING NOTES BEFORE COMPLETING THIS FORM:**

1. This form must be completed for **ALL** changes involving degree program requirements/procedures. **All** sections of this form **must** be completed.
2. An electronic version of this form (must be in MS WORD **not** PDF) should be emailed to the Assistant Secretary, School of Graduate Studies (cbryce@mcmaster.ca).
3. A representative from the department is **required to attend** the Faculty Curriculum and Policy Committee meeting during which this recommendation for change in graduate curriculum will be discussed.

|  |  |  |                          |
|--|--|--|--------------------------|
| <b>DEPARTMENT</b>  | Graduate Nursing Programs, School of Nursing                               |  |                          |
| <b>NAME OF PROGRAM and PLAN</b>  | Advanced Neonatal Nursing Diploma  |  |                          |
| <b>DEGREE</b>  | Masters of Science Neonatal Nursing Stream or Post-Master's Degree Diploma |  |                          |
| <b>NATURE OF RECOMMENDATION (PLEASE CHECK APPROPRIATE BOX)</b>   |  |  |                          |
| Is this change a result of an IQAP review? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No   |  |  |                          |
| CREATION OF NEW MILESTONE <input type="checkbox"/>   |  |  |                          |
| <b>CHANGE IN ADMISSION REQUIREMENTS</b>  | <input type="checkbox"/>   | <b>CHANGE IN COMPREHENSIVE EXAMINATION PROCEDURE</b>     | <input type="checkbox"/> |
| <b>CHANGE IN THE DESCRIPTION OF A SECTION IN THE GRADUATE CALENDAR</b>   | <input checked="" type="checkbox"/>  | <b>EXPLAIN:</b><br>Remove programs from Graduate Calenda |                          |
| <b>OTHER CHANGES</b>   | <input checked="" type="checkbox"/>  |  |                          |
| <b>DESCRIBE THE EXISTING REQUIREMENT/PROCEDURE:</b>  |  |  |                          |
| <p>Currently, the Graduate Calendar shows the Advanced Neonatal Diploma programs in the Graduate Calendar</p> <p><a href="https://academiccalendars.romcmaster.ca/preview_program.php?catoid=46&amp;poid=23841&amp;returnto=9236">https://academiccalendars.romcmaster.ca/preview_program.php?catoid=46&amp;poid=23841&amp;returnto=9236</a></p> |  |  |                          |

|  |
|--|
|  |
|--|

**PROVIDE A DETAILED DESCRIPTION OF THE RECOMMENDED CHANGE (Attach additional pages if space is not sufficient.)**

The Advanced Neonatal Programs (Masters stream or diploma) have not been offered for over 10 years, initially due to a lack of applicants. The School of Nursing no longer has faculty eligible to teach the program, and there are no faculty with relevant research programs. The recent Curriculum Renewal Process in the Graduate Nursing Programs did not identify that this program as a priority for renewal.

**RATIONALE FOR THE RECOMMENDED CHANGE (How does the requirement fit into the department's program and/or tie to existing Program Learning Outcomes from the program's IQAP cyclical review?):**

It was identified at IQAP Review that if the program is no longer offered it should be removed from Graduate Calendar.

**PROVIDE IMPLEMENTATION DATE: (Implementation date should be at the beginning of the academic year)**

Fall 2023

**ARE THERE ANY OTHER DETAILS OF THE RECOMMENDED CHANGE THAT THE CURRICULUM AND POLICY COMMITTEE SHOULD BE AWARE OF? IF YES, EXPLAIN.**

**PROVIDE A DESCRIPTION OF THE RECOMMENDED CHANGE TO BE INCLUDED IN THE CALENDAR (please include a tracked changes version of the calendar section affected if applicable):**

**CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:**

|  |                            |                  |                 |
|--|----------------------------|------------------|-----------------|
| Name: Nancy Carter<br>January 30, 2023 | Email: carterm@mcmaster.ca | Extension: 22259 | Date submitted: |
|--|----------------------------|------------------|-----------------|

If you have any questions regarding this form, please contact the Assistant Secretary, School of Graduate Studies,  
cbryce@mcmaster.ca

SGS/2013



# McMaster University Research Centres & Institutes

## 2022 Annual Aggregated Report

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**BRIGHTER WORLD** | [mcmaster.ca](https://mcmaster.ca)



## An overview of 2022

The success of McMaster's Research Centres and Institutes (RCIs) is dependent upon the people – the directors, faculty, staff and students – who work within them. I'm happy to share some of those successes with you, in the second RCI annual report. Through the 2022 reporting process, I was repeatedly reminded of the high-quality work coming out of our multidisciplinary and Faculty-based RCIs. Our RCIs have a critical role to play as we emerge from the global pandemic and build new methodologies for academic research. They bring our researchers together, often across disciplines, to create a value-added research model.

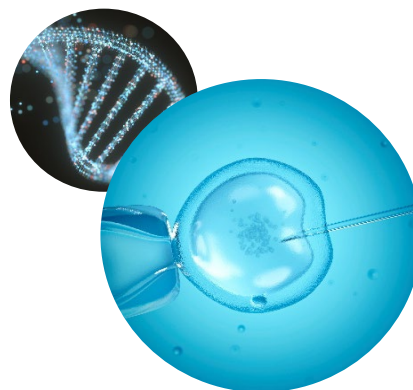
Our excellence in research is driven by the efforts of our research community – efforts that are amplified through our RCIs. These centres and institutes allow our faculty members and their research teams to focus on the most pressing and demanding problems facing society, to pool their talents and resources, and to maximize institutional impact and output. Specifically, RCIs allow us to advance our strategic research objectives; enhance research collaborations; facilitate interdisciplinary research; stimulate partnerships; expand our global reach; increase our ability to secure funding for major research initiatives; and strengthen the linkages between research and teaching.

In 2022, McMaster established three new RCIs: i) Centre for Advanced Research for Mental Health and Society with Dr. Marisa Young as Director ii) Digital Society Lab with Dr. Cliff van der Linden as Director and iii) McMaster Institute for Research on Aging - Dixon Hall with Dr. Parminder Raina as Director. In accordance with the policy Guidelines for the Governance and Review of Research Institutes, Centres and Groups, 11 external RCI reviews were completed. The reviews were overwhelmingly positive and spoke to the excellence of our centres and institutes and the incredible work of their directors. The review process and the expertise of the review board members allowed us to gain critical feedback to inform our strategic direction for RCIs going forward.

The Office of the Vice-President, Research (OVPR), continues to support the RCI Undergraduate Summer Research Program initiative, now in its third year. With the 2023 cohort, 39 undergraduate students – spread evenly across the faculties – will have received financial support to work in an RCI of their choice, often gaining their first experience in a research environment. At the request of the Deans, we held our first three knowledge sharing and engagement events, providing opportunities for the RCI leadership community to connect with and learn from one another. And, to help RCIs maximise their impact, we introduced the Research Centres and Institutes Engagement Fund to support up to 20 proposals that address the need to coordinate members around the thematic mission of an RCI.

This aggregated report speaks to both the qualitative and quantitative impact of our 67 centres and institutes during 2022 and tells an amazing story. A few highlights: more than 45 percent of McMaster's peer-reviewed journal publications and conference proceedings were enabled by our RCIs; some 360 post-doctoral fellows, 2100 graduate students, and 1800 undergraduate students advanced their research through RCIs; and nearly 1750 external collaborators reaped the benefits of working with our RCIs.

Dr. Andy Knights  
Associate Vice-President, Research  
Office of the Vice-President (Research)





# RCIs By the Numbers

Interacting with RCIs in 2022:



Faculty<sup>1</sup>



Postdoctoral  
Fellows<sup>2</sup>



Graduate  
Students<sup>3</sup>



Undergraduate  
Students<sup>4</sup>



Other Academic  
Researchers<sup>5</sup>



Other  
Non-Academic  
Researchers<sup>6</sup>

1 Total number of faculty member/RCI interactions

2 Number of PDFs supported by our RCIs

3 Number of graduate students supported by our RCIs

4 Number of undergraduates working with RCIs

5 Number of non-McMaster academic researchers interacting with our RCIs

6 Number of external collaborators such as from industry, not-for-profits, and government, supported by our RCIs

## RCIs By the Numbers

Enabled by RCIs in 2022:

2941

Journal  
Publications

394

Conference  
Proceedings

1108

Conference  
Presentations

358

Graduate Degree  
Completions

513

Undergraduate  
Senior Projects

458

Reports for External  
Organizations

40

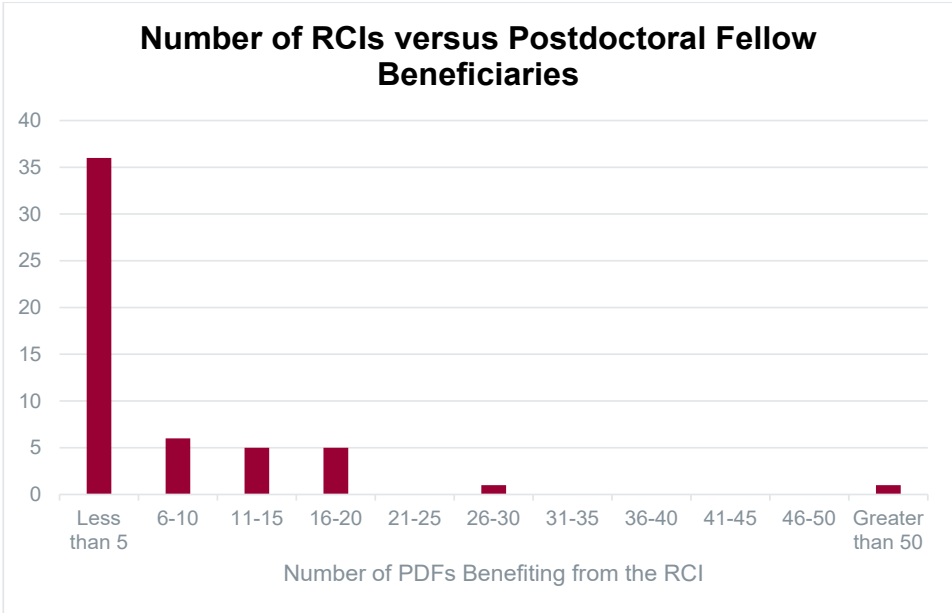
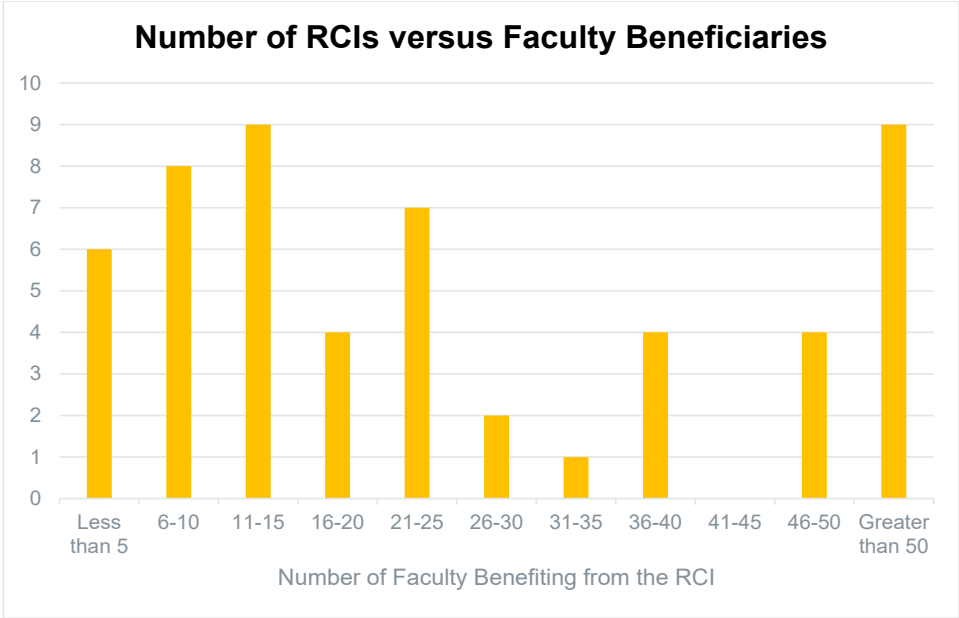
Intellectual Property  
Disclosures

49

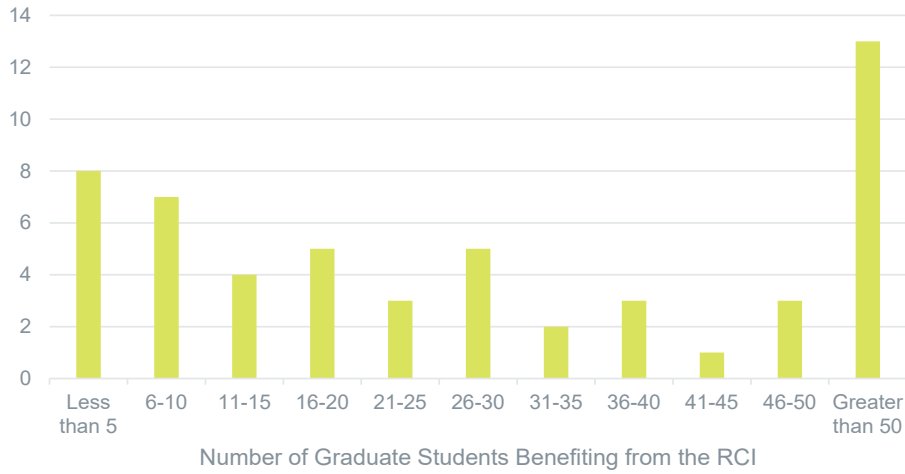
Patents

776

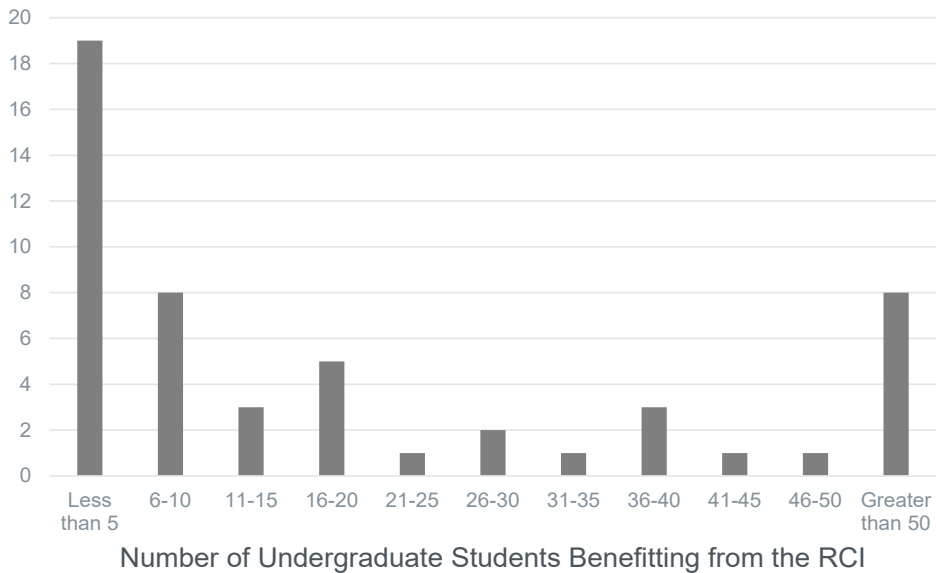
Licences to External  
Organizations



### Number of RCIs versus Graduate Student Beneficiaries



### Number of RCIs versus Undergraduate Student Beneficiaries



# Research Impact and Influence examples

## Creating education opportunities for incarcerated Canadians

The [McMaster Indigenous Research Institute's](#) (MIRI) Prison Education Project is increasing post-secondary educational opportunities for incarcerated Canadians. The Project is part of MIRI's mission to improve and promote access to research and education focused on Indigenous teachings in governance, law, philosophy, art and science.

Through the Walls to Bridges\* (W2B) program, MIRI brings university courses into prison settings, enabling incarcerated and university students to learn together as peers while earning the same university course credit. Instructors and students explore diverse Indigenous perspectives, histories, governance systems and languages, while fostering a learning environment that has the power to produce rich and important results.

The Project will address the overrepresentation of Indigenous peoples in the prison system, who are consistently marginalized and forgotten, while providing students with the critical thinking skills needed to make positive changes in their own communities.

The first Walls to Bridges course at McMaster (Indigenous Studies 2IR3, Indigenous Resurgence) began in January 2023 at Grand Valley Institution, a women's prison in Kitchener. MIRI is preparing to host a second course in Fall 2023.

MIRI is currently leading several initiatives to expand the Prison Education Project. In collaboration with Wilfred Laurier University, the Institute is organizing a five-day intensive training program for future W2B course facilitators. MIRI is also contributing to the formation of a W2B National Council, has plans to host the 2024 Prison Education Conference and is currently working with the Hamilton Regional Indian Centre and Wentworth Detention Centre to expand the Project within these settings.



\*University of Windsor W2B final class project South West Detention Centre, Fall 2022



## Uncovering the deep connections between music and the mind

Researchers, scientists and musicians at the [McMaster Institute for Music and the Mind](#) (MIMM) are exploring the deep connection between music and the human brain. MIMM houses a unique research performance hall called the LIVELab. Featuring state-of-the-art technology – including active acoustic control and devices that measure electrical and physiological responses in the brains and bodies of musicians, dancers and audience members – the LIVELab is designed to increase neuroscientific understanding of how performers interact, how audiences are cognitively, socially and emotionally impacted by music and how music can be used in therapeutic applications.

MIMM's youth education and outreach program engages 2000 students annually. Through interactive tours of the LIVELab, students are introduced to the technology and experience first-hand how it can be used to solve real-world problems. Music production workshops provide learning opportunities for youth to utilize loops, drum pads, synthesizers, and digital effects to create their own digital music. MIMM also offers online educational resources, including their Science RendezVous webpage, which features a virtual LIVELab tour and activities related to LIVELab technology and research.

MIMM's educational programs are designed to highlight how scientific knowledge and technology can be applied in creative arts settings. The Institute has established partnerships with the Hamilton Wentworth District School Board and community organizations including An Instrument for Every Child, the YWCA, Girls in Science, and youth from Six Nations.



### Advancing ethics in global and public health

Researchers at the [Institute on Ethics & Policy for Innovation](#) identify and address ethical challenges, ethics-related risks, and policy gaps that have the potential to undermine the impact of life-saving technologies and interventions in global health. A new partnership with the Kamuzu University of Health Sciences (KUHeS) in Blantyre, Malawi, Africa will allow both institutions to work together to address ethical challenges and questions associated with global and public health issues.

The partnership is part of IEPI's mission to collaborate with the global health research community, partners, funders, and other stakeholders to navigate the ethical, social, and cultural challenges that arise from scientific and technological advancement — so that, ultimately, innovative health solutions reach those who need them most.

With support from the Bill and Melinda Gates Foundation, IEPI and KUHeS will work together to develop joint educational programs and host graduate students and research fellows at both universities — advancing excellence in African research and bioethics by helping to strengthen and develop training, skills, and resources for ethics practitioners and health professionals.

In September 2022, the partners co-developed and co-delivered a two-week summer school program on global health, security, equity and governance at KUHeS' Center for Bioethics in Eastern and Southern Africa. IEPI faculty delivered 10 guest lectures and provided 10 tuition scholarships for African scholars to attend the program, and plans are currently underway to expand the program.

### Leading interdisciplinary research on next-generation materials

Materials play a central role in our daily lives. From cellphones and electric vehicles to medical equipment and treatments, the next generation of innovations in health, science and technology will depend on the discovery and development of new materials.

The [Brockhouse Institute for Materials Research](#) (BIMR) is a world-leader in interdisciplinary materials research, innovation and education. In 2022, BIMR launched the Future Materials Innovators program (FMIP) — an initiative designed to support original materials research led by McMaster graduate students.

BIMR selects and funds up to three FMIP projects each year. Each research team includes students from at least two different departments who share an innovative research idea that addresses a global challenge. With access to BIMR's unique suite of research facilities and platforms, the program enables students to build critical research skills while contributing their expertise to the study of new materials with improved properties, enhanced performance, and decreased impact on our environment.

The program encourages students to lead every aspect of their research — including writing their research proposal, developing a budget and hiring and supervising an undergraduate summer researcher to help with their project. At the end of the year, the teams present their results as part of the BIMR Seminar Series. Last year, three teams were selected for the program with projects that advance solutions in biomedicine, manufacturing and the environment.



## Empowering parents with interactive workshops on childhood disability

The [CanChild Centre for Childhood Disability Research](#) has developed a series of online interactive workshops to empower parents of children with developmental disabilities. ENVISAGE: ENabling VISION And Growing Expectations provides parents with information, resources and skills-building tools that have been shown to help them feel more competent, CONFIDENT and connected to fellow parents and care providers throughout their parenting journey.

The ENVISAGE program was co-designed by CanChild in partnership with researchers at the Australian Catholic University and Melbourne University with input from clinicians and parents. ENVISAGE-Families provides parents and caregivers of children with neuro-disabilities under the age of six with an introduction to modern international concepts about health, development, parenting and personal self-care, as well as strategies for sharing these ideas with family, friends, and service providers.

Sixty-five families in Canada and Australia enrolled in the ENVISAGE-Families program last year. Participants reported that the workshops improved their sense of empowerment and confidence in parenting. Thanks to the success of the program, the Australian Catholic University was awarded \$6.9M from the Australian Department of Social Services to offer ENVISAGE-Families to 1000 families across Australia over the next three years.

An Analogue program called ENVISAGE-Service Providers is currently in development. The program will be available to service providers who work with children with developmental challenges, delays and disabilities.



## Increasing access to education and support for displaced students and scholars

Researchers at the [Institute on Globalization and the Human Condition](#) (IGHC) examine the impact of globalization in our lives, communities, and the environment. The IGHC plays a crucial role in promoting research and teaching on global and international issues and themes, including civil society, health, government, trade, cultural production and political activism.

In 2021, the IGHC launched a series of initiatives to sponsor and support students and scholars located in Afghanistan whose work, education and livelihood was put at risk when the Taliban regained control of the country. This project evolved into the McMaster Committee on Students and Scholars in Crisis (CSSC) – a group comprised of faculty, staff, students, alumni and community members who have been forcibly displaced from their homes. In 2022, McMaster's six Faculties and the Office of the Provost collectively pledged \$800,000 to the CSSC. The funds have helped students and scholars at risk around the world, including in Afghanistan and Ukraine.

IGHC is exploring ways to remotely employ researchers and students located in Afghanistan, including those associated with Kabul University's Master's program in Gender and Women Studies. Marufa Shinwari, a PhD student at McMaster, helped Kabul University faculty develop the curriculum for the program in 2015. Since then, Shinwari and other members of the IGHC and the CSSC have been working together to create spaces at McMaster and abroad where young learners and scholars impacted by global crises can freely think, challenge and share ideas.

## Helping companies stay ahead of the manufacturing curve

Nearly every industry today faces challenges caused by our evolving technological landscape and the need

for new tools that will help them meet shifting demands. Experts at the [McMaster Manufacturing Research Institute \(MMRI\)](#) are developing ground-breaking manufacturing solutions to keep their partners ahead of the technological curve.

In 2022, MMRI partnered with Press Lock Technologies – a North American leader in clinching and self-piercing rivet devices used in the sheet metal industry. A team of experts at MMRI worked with the company to upgrade the design of one of their punch tools – a device commonly used to indent and create holes in hard surfaces, like metal. The company needed a solution that would prevent materials from sticking to the punch tool. MMRI put their cutting-edge facilities and expertise to the task.

The Institute developed new specialized coatings for the punch tool and used a unique polishing method during post-processing to combat the sticking problem. With assistance from MMRI, Press Lock Technologies was able to trial new and innovative PVD coatings for their mechanical clinching technology and introduced four new products to the marketplace in their first year of operation. Press Lock is currently exploring how the coatings can be applied more broadly, giving the company a competitive market advantage.

In December 2022, MMRI moved to McMaster Innovation Park. The 21,000-square-foot state-of-the-art facility is equipped with a private 5G network – thanks to a partnership with Canadian technology provider TERAGO – creating new research possibilities in data analysis, machine learning and remote automation that can be used to improve manufacturing processes, products and productivity. An Open House for industry and government partners is planned for May 2023.



## Transforming the healthcare landscape through policy-relevant research

The [Centre for Health Economics & Policy Analysis \(CHEPA\)](#) is pioneering interdisciplinary health research to inform fair and sustainable health and social systems. Researchers are engaged in a variety of studies aimed at improving health equity, access, delivery and patient, public and community engagement.

Opinion surveys show that 86 per cent of Canadians believe palliative care should be provided at home as much as possible. With this in mind, CHEPA is conducting an economic evaluation of a program designed to train more than 6,000 paramedics in six Canadian provinces to provide at-home palliative care for Canadians who require urgent palliative services.

CHEPA is also leading research on new health care delivery systems. As healthcare systems around the globe face pressure to meet rising demands with limited resources, researchers at CHEPA are exploring the efficacy of mobile integrated healthcare (MIH) – a new model of community-based healthcare that uses community paramedics to provide needs-based on-site urgent and nonurgent care.

Researchers found that the use of MIH in the Niagara region was associated with a decrease in the proportion of patients transported to the emergency department. It also saved health care costs compared with regular ambulance responses. Their findings suggest that the MIH model is a promising and viable solution to meeting urgent health care needs in Canadian communities, while substantially improving the use of scarce health care resources.



## Improving digital accessibility for older adults

For older adults, navigating an increasingly digital world can be a challenge. The [McMaster Digital Transformation Research Centre](#) (MDTRC) is leading cutting-edge multidisciplinary research to better understand the implications of digital transformation in the context of aging and accessibility.

Older adults are the fastest growing segment of the population, but the challenges they face when using technology are typically overlooked. As we age, we tend to experience a decline in vision, hearing, short-term memory and tactile movement control, which can lead to barriers in navigating websites, apps and accessing health and customer services.

Researchers from the MDTRC are examining how aging impacts older adults' technology User Experience (UX) and exploring new user interfaces that make digital

innovation more accessible. Researchers use traditional behavioural tools such as surveys, focus groups and interviews to gain insight into participants' experiences and neurophysiological tools to gain a deeper understanding of how participants interact with technology.

The Centre is currently preparing to launch a Mobile User Experience Lab (MUXL) – a one-of-a-kind facility that can go directly into communities, allowing the Centre to extend its work across Ontario and ensure that older adults and the disabled are able to participate in research related to technologies that impact their life and health. The MUXL Open House is planned for April 2023.



# List of Research Centres and Institutes

Bertrand Russell Research Centre  
Director: Dr. Alex Klein

Biointerfaces Institute  
Director: Dr. John Brennan

Biomedical Engineering and Advanced Manufacturing  
Director: New Director to be confirmed in 2023

Brockhouse Institute for Materials Research  
Director: Dr. Alex Adronov

Canadian Centre for Electron Microscopy  
Director: Dr. Nabil Bassim

Can-Child: Centre for Childhood Disability Research  
Co-Directors: Dr. Olaf Kraus de Camargo and  
Dr. Briano Di Rezze

Centre for Advanced Research for Mental Health and  
Society  
Director: Dr. Marisa Young

Centre for Advanced Research in Experimental and  
Applied Linguistics  
Director: Dr. Ivona Kucerova

Centre for Ancient Numismatics  
Director: Dr. Spencer Pope

Centre for Automotive Materials and Corrosion  
Director: Dr. Joey Kish

Centre for Clinical Neuroscience  
Director: Dr. Benicio Frey

Centre for Community-Engaged Narrative Arts  
Co-Directors: Dr. Lorraine York and Dr. Daniel Coleman

Centre for Discovery for Cancer Research  
Director: Dr. Shelia Singh

Centre for Emerging Device Technologies  
Director: New Director to be confirmed in 2023

Centre for Excellence in Protective Equipment and  
Materials  
Director: Dr. Ravi Selvanganapthy

Centre for Health Economics & Policy Analysis  
Director: Dr. Jean-Eric Tarride

Centre for Human Rights and Restorative Justice  
Director: Dr. Juanita De Barros

Centre for Mechatronics and Hybrid Technologies  
Director: Dr. Saied Habibi

Centre for Metabolism, Obesity, and Diabetes Research  
Co-Directors: Dr. Katherine Morrison and  
Dr. Gregory Steinberg

Centre for Networked Media and Performance  
Director: Dr. Christine Quail

Centre for Peace Studies  
Director: Dr. Chandrima Chakraborty

Centre for Research in Micro- and Nano-Systems  
Director: Dr. Jamal Deen

Chanchlani Research Centre  
Director: Dr. Sonia Anand

David Braley Centre for Antibiotic Discovery  
Director: Dr. Mathew Miller

Digital Society Lab  
Director: Dr. Clifton van der Linden

Escarpment Cancer Research Institute  
Director: Dr. Gregory Pond

Farncombe Family Digestive Health Research Institute  
Director: Dr. Steve Collins

Gilbrea Centre for Studies in Aging  
Director: Dr. Anthea Innes

Institute on Ethics and Policy for Innovation  
Director: Dr. Claudia Emerson

Institute on Globalization and the Human Condition  
Director: Dr. Petra Rethmann

L.R. Wilson Institute for Canadian History  
Acting Director: Dr. Ken Cruickshank

Labarge Centre for Mobility in Aging  
Director: Dr. Parminder Raina

Lewis and Ruth Sherman Centre for Digital Scholarship  
Director: Dr. Andrea Zeffiro

MacData Institute  
Director: New Director to be confirmed in 2023

McMaster Advanced Control Consortium  
Director: Dr. Christopher Swartz

McMaster Centre for Climate Change  
Director: Dr. Altaf Arain

McMaster Centre for Scholarship in Public Interest  
Director: Dr. Henry Giroux

McMaster Centre for Software Certification  
Director: Dr. Richard Paige

McMaster Centre for Transfusion Research  
Co-Directors: Dr. Donnie Arnold and Dr. Issac Nazi

McMaster Digital Transformation Centre  
Director: Dr. Milena Head

McMaster Immunology Research Centre  
Director: Dr. Carl Richards

McMaster Indigenous Research Institute  
Director: Dr. Savage Bear

McMaster Institute for Energy Studies  
Director: Dr. Dave Novog

McMaster Institute for Music and the Mind  
Director: Dr. Laurel Trainor

McMaster Institute for Research on Aging  
Director: Dr. Parminder Raina

McMaster Institute for Research on Aging - Dixon Hall  
Director: Dr. Parminder Raina

McMaster Institute for Transport and Logistics  
Director: New Director to be confirmed in 2023

McMaster Institute of Health Equity  
Director: Dr. Jim Dunn

McMaster Manufacturing Research Institute  
Director: Dr. Stephen Veldhuis

McMaster Midwifery Research Centre  
Director: Dr. Beth Murray-Davis

McMaster Physical Activity Centre of Excellence  
Director: Dr. Stuart Phillips

McMaster Steel Research Centre  
Director: Dr. Joe McDermid

McMaster University Centre for Buddhist Studies  
Director: Dr. James Benn

McMaster University Centre for Effective Design of Structures  
Director: New Director to be confirmed in 2023

Michael G. DeGroot Centre for Medicinal Cannabis Research  
Director: Dr. James MacKillop

Michael G. DeGroot Cochrane Canada Centre at McMaster  
Director: Dr. Holger Schunemann

Michael G. DeGroot Institute for Infectious Disease Research  
Director: Dr. Mathew Miller

Michael G. DeGroot Institute for Pain Research and Care  
Director: Dr. Norm Buckley

Michael G. DeGroot National Pain Centre  
Director: Dr. Norm Buckley

Michael Lee-Chin and Family Institute for Strategic Business Studies  
Director: Dr. Ron Balvers

Offord Centre for Child Studies  
Director: Dr. Stelios Georgiades

Population Health Research Institute  
Director: Dr. Salim Yusuf

Schroeder Allergy and Immunology Research Institute  
Director: Dr. Susan Waserman

Spark: A Centre for Social Research Innovation  
Director: Dr. Michelle Dion

Statistics Canada Research Data Centre at McMaster  
Director: Dr. Michael Veall

The McMaster Origins Institute  
Director: Dr. Jonathon Stone

Thrombosis and Atherosclerosis Research Institute  
Director: Dr. Jeffery Weitz