

«Les bingos, c’était de belles places, mais y’en a plus ici. Avant, on organisait des activités pour les aînés, mais y’en a plus de ça, non plus. Les centres d’achats, c’est tout ce qui reste. Les seules sorties des CHSLD sur Gouin se font ici. Si c’était pas là, beaucoup de personnes ne sortiraient jamais de chez eux. Mais y’en faut plus, d’activités et de places où aller. Il ne faut pas oublier qu’on est encore une force vivante.» -Madame Denise cited in De Rosa, 2018

RELEVANCE, ORIGINALITY, ADDED VALUE, AND FEASIBILITY OF THE LIVING LAB APPROACH:

Significant public and environmental health issues are on the rise globally due to a lack of meaningful social relationships, affecting increasing numbers of older adults, 65 years and over. Loneliness is rapidly becoming a number one public health problem across North America (DiJulio et al., 2018). Currently 20% of older adults are socially isolated contributing to increased mental and physical health concerns. Depression, a significant mental health symptom, is present in 44% of seniors in residential care (Statistics Canada, 2017). In addition, the oldest-older adults, 85 years and over, face progressively narrowing “life activity spaces” and “in some cases increasingly frail individuals are being expelled from their environments of choice” affecting their health and sense of wellbeing (Joplin, 2016, p. 207). Loneliness has a detrimental effect on mental and physical health (Cacioppo & Hawkley, 2009; Hawkley & Cacioppo, 2003; Victor et al., 2009), and both loneliness and social isolation have been shown to increase death rates (Lunstad et al., 2010, Steptoe et al., 2013). This mind-body connection has been studied since the 1940s, most notably by Cannon (2002) who established links between emotions and sudden death. According to Holt-Lunstad et al. (2010) social isolation has been demonstrated to carry a health risk comparable to smoking up to 15 cigarettes a day, and one which exceeds the risk of alcoholism, obesity, and inactivity. Unnecessary barriers to social isolation which contribute to chronic isolation and loneliness (Beach & Bamford, 2014), including a lack of informal social supports (Choi & Gonzales, 2008) and subjective self-perceptions of negative aging (Sun & Smith, 2017) could be mediated through building creative community relationships in places where older adults choose to gather. The UCLA Loneliness Index, reportedly used in almost 80% of empirical research, was first published in 1978 (Gooseens et al., 2014) and indicated the negative effects on health. In 2015, a meta-analysis led by Julianne Holt-Lunstad synthesized 70 papers, through which 3.4 million participants were followed over an average of seven years and found that those classified as lonely had a 26% higher risk of dying, 29% for social isolation, and those living alone had a 32% higher risk, after accounting for differences in age and health status.

While the prevention and response to health concerns related to social isolation require strong public policies and the implementation of relevant social programming within accessible spaces, it is known that solutions can only come through interaction on a local level in collaboration with older people (Buffel & Phillipson, 2015; Winch, 2017). This is reflected in the recent global movement towards age-friendly cities, which was developed by the World Health Organization (WHO) and features a best practices checklist of social services, physical infrastructure improvements, and civic engagement efforts to involve seniors in informing policy change (Joy, 2018). Involving seniors in community conversations in Montreal and across the province becomes an urgent challenge in the face of increasing negative weather events related to climate change, that affect the safety and mobility of older adults, especially those living alone.

This proposed university research project includes a team of 7 diverse researchers who align with an age-friendly cities approach in order to co-construct a living lab in a neighborhood mall with older adults (See Photo 1). The research will use mixed scientific methods starting with a qualitative participatory action research approach that includes beginning the project with university research experts, practitioners, artists, and most importantly, the older and the oldest-older adults themselves. We will join together at a store space in the mall in order to respond to the future health and quality of life needs of older Canadians through strength-based approaches that offer concrete solutions linked through our experiences of sharing information and making meaning for the benefit of all. As a group

of researchers from Concordia's engAGE: Centre for Aging, in collaboration with a diverse network of partners, collaborators, and stakeholders, we welcome the interdisciplinary challenges of this project as it represents an important intersectoral methodology embedded in urban sustainability that will lead to important policy recommendations and a replicable model to disseminate to other communities. In effect, this approach will transform scientific health research and contextualize it within actual day-to-day life and health needs of older adults.

Originality, Added Value and Feasibility: The proposed project is original because it will provide a solution for older adult social isolation at its conception. While other projects have located themselves in malls to readily collect data and disseminate research findings concerning individuals with disabilities (Swaine et al. 2014), this is the first project to immediately actualize a living lab environment for and by older adults. Additionally, there is a unique opportunity in repurposing empty shops in malls, whose initial intention was to privatize social worlds as "consumer models of citizenship", that are now in decline but continue to serve as active older adult-led communal spaces (De Rosa, 2018; Parlette & Cowen, 2011, p. 797). These communal spaces are novel research sites where older adults already gather, making the project quite feasible. New research innovation as well as new community-university partnerships will be tested out with the intention of scientifically understanding and supporting the overall health and wellness of the older residents in surrounding neighbourhoods. For example, the participation in the creative arts in the support of health and wellbeing of older adults (Cohen et. al., 2006; Leckey, 2011; Stuckey, 2010) is rapidly being quantified through new clinical trials, demonstrating the cost effectiveness and community building aspects of public practice creative arts for the maintenance of mental health among adult populations.

The majority of engagement and enrichment programs for older adults in Montreal are geared primarily towards enhancing the lives of older adults who are mobile and enjoy high degrees of cognitive and functional autonomy. This project is original because engAGE researchers and collaborators will build studio relationships over a three-year period to improve the oldest-older adults' quality of life, with acknowledgement that these enhanced relationships will improve the wellbeing of the entire community, and through policy changes, society as a whole. As an active studio-lab working together we will respond to what works to support older adults' autonomy, mastery of new skills, encouraging generosity, and perhaps most importantly to this research, deepening meaning and a sense of belonging among older adults (Brendtro et al., 1991; Macoretta, 2017).

Expected Health Benefits: This multi-layered project will aim first and foremost to build creative relationships between older adults and university researchers and students. We aim to decrease stigma of aging through meaningful intergenerational engagement, and strengthening cognitive health through scientific and innovative participatory research. This will be accomplished by utilizing creative methods, including music, singing, art making, poetry and performance, storytelling, dancing, cooking and opening spaces in which every elder can share their creative skills with others within a multigenerational community setting which has been demonstrated to offer positive results (Neufeld & Burrows, 2017, Noice, Noice & Kramer, 2014; Timm-Bottos, 2006). Secondly, a special focus will be placed on improving self-perceptions of aging with active efforts to decrease age discrimination, dispel myths and negative stereotypes, and model positive aging. Through building a sustainable, creative community-of-practice between the oldest-older adults, older adults, adults, youth, children and engAGE university researchers, faculty, and students, a life-long learning model of responsive health initiatives will emerge and be documented, integrated and disseminated widely for adoption in other communities across QC, North America, and worldwide through their age-friendly policy programs.

Community engagement and entertainment arts have long been used to promote gentrification in revitalizing cities (Florida, 2011; Jacobs, 1961) and in this project, adding participatory creative arts may add a new angle that promotes inclusivity, health and wellness, along with a new vibrancy within a declining market environment. This project will test economic changes through the lens of our economic researcher, Dr. Linda Dyer and community practitioner, Tracie Swim. The added value will

be that small businesses, and mall libraries, once found in Montreal malls, will reemerge within inner suburbia, as increasing numbers of mall shoppers, including older adults, find and express new meanings found in these expansive market spaces.

Developing community gathering spaces with older adults in familiar and accessible spaces within their own neighbourhoods is important in making this a feasible project. “Mall walking” has a long history in Canada by older adults to maintain healthy exercise through the long winter months as well during summer heat waves (Belza et al., 2017; King et al., 2015); and more uniquely, in a declining mall in St Hubert, QC, older adults have organized weekly mall dancing for the past 20 years (De Rosa, 2018). Other factors identified by university researchers interacting with older adults as well as adults with disabilities in inner suburban mall environments is the importance of accessible public transportation to the entrance of the space which is located on one level, with clean, wheelchair accessible restrooms (King et al. 2015; Swaine et al. 2014).

Three inner suburb neighbourhood malls will host different aspects of the project and be investigated differently in order to collect diverse data through researchers’ preferred methodologies which include the collecting “community defined evidence” (Martínez, Callejas & Hernandez, 2010). The hope is to collect “what works” or what might work regarding older adults and oldest-older adults’ wellness practices in local malls. The primary dissemination mall that includes senior access to the CLSC (health clinic), a grocery store, and pharmacy located closest to the university will be secured through affordable rental of space. The mall’s close proximity to the Loyola campus of Concordia will make it feasible to invite faculty members, staff and students to engage in the activities. The research team will host monthly community-of-practice meetings, targeting invitations based on the topics to be explored.

The project’s adopted intersectoral approach will ensure its **added value** through expanding the ability to create innovative solutions, emerging between the disciplinary silos. The diversity and intersections of disciplines (health sciences, natural sciences, social sciences, humanities, and narrative and creative arts), allow to reach across a broad diversity of community members’ interests and invite them to collaborate together in novel ways, with the support of academic experts. This crossing of borders allows scientists to come together with older adults and business stakeholders to develop comprehensive solutions to difficult and urgent questions.

Intersectoral Integration and Co-Creation Strategy: engAGE’s *creative living lab* will be developed in three phases representing the stages of research collection, analysis, creative production of findings, evaluation and programmatic dissemination. By the third phase, this project will have connected all three major sectors covered by FRQ including: health sciences through PERFORM (Li), natural sciences through science shop methodologies already tested through engaged community scholarship (Timm-Bottos), with scientists from Biology, Chemistry, Neuroscience and Indigenous science), Engineering (Khalilli-Mahani, multimedia spa) and humanities, social science, arts and literature (Joy, through best Age-Friendly City policy design; Young, through Music Therapy, Coffey & Dyer, through economic considerations; Hebblethwaite & Hill, intergenerational digital engagement; and Timm-Bottos, Art Hives methodologies).

The engAGE team will provide leadership for the management of the living lab programming and research production and dissemination, with every other month scheduled with residencies from faculty researchers working in collaborative ways with older adults through co-constructed themes. For example, “The Age-Friendly City,” will be set up for a 3-week exploration of the new technologies, research-creation, scientific research dissemination, collection of new data, where engage researchers and stakeholders come together and invite other researchers, students, and the wider community in a design charrette. Another theme may be “Food Security for Older Adults” with activities to include cooking activities, colouring stations, paper making, large mural and indoor gardening with the engAGE scientific research embedded in the creative expression of its stakeholders. For 3 weeks, every other month, the storefront mall becomes a community-university classroom for everyone to meet-up

and learn from each other. The residencies will be advertised locally in the mall itself, as well as on the project's website, social media, and sent through mailing lists relevant to aging and social innovation, as well as through Concordia's media platforms.

Phase I (Year 1): Listening and building new relationships across sectors, establish team infrastructure and **set-up physical location** for the *creative living lab* in one shopping mall that older adults frequent. The participants will co-design a comfortable space to build reciprocal relationships necessary for understanding the most vulnerable, oldest adult needs and to learn about the current creative activities that they have initiated or enjoyed. To anchor the space, the creative living lab will have: a) an art hive, an established methodology in QC of engaging seniors in conversation through art making; and b) a 'multimedia spa' to encourage relaxation and self-care through digital games and films. The team will host six Science Shop sessions per year (Lima & Timm-Bottos, 2018; 2017) (See Photo 2). This previously tested methodology of collaborative research design and dissemination originating in the Netherlands which encourages public science and hands on experientials responsive to address older adults' interests. Examples of Science Shop topics include: exploration of the social determinants of health related to aging, such as co-housing and granny flats; new and emerging digital technologies, such as the development of animation and digital games; soil biology for successful pesticide free gardening, and so on. Mixing of disciplines will be curated to create synergies of new knowledge that will be directly experienced, methodically collected and scientifically evaluated with dissemination starting by sharing the findings within *creative living lab*. Older adult stakeholders will be invited to take leadership roles by presenting topics from any discipline, including environmental sciences, social sciences, humanities, arts and literature and decide what research is most relevant in order to co-design the second series and so on. For example, graduate students from the engineering and labs, such as Concordia's TAG: Technoculture, Art and Games Lab, will visit the store space to present their work on age-related research going on in the Montreal area, and older adults will participate in demonstrations, give qualitative feedback on proposed assistive technology, and participate in small-scale research projects.

The seniors will evaluate the success of the programming so that all aspects will be led by their expertise. As part of augmenting the project's relevance for stakeholders, different combinations of researchers will develop creative ways to share observations between stakeholders and research team members. For example, we will establish community-of-practice gatherings at the mall once a month that will entail students, researchers, and older adults interacting with materials of the trades to understand and develop themes to be explored and demonstrated to the public-at-large. In addition, we will investigate and explore through a wide range of art forms (visual arts, dance, theater, music, poetry, etc.) in order to explore different topics that arise spontaneously in the setting. The creative arts also serve as methods of self and mutual care to foster mindfulness and wellness through activities like knitting circles, mandala colouring, weaving projects, intergenerational community mural (Singer, 2016), cyanotype printing (See Photo 3), sharing recipes using culturally relevant foods, indoor gardening, and creative reuse of materials. In this novel setting, researchers and community alike will collaborate on programs and research topics.

Three neighbourhood malls will come on board over the first year initiating a wide range of research practices. The first is Cavendish Mall (Cote St Luc) located in close proximity to Concordia, enabling a series of scheduled university residencies within the space to include engAGE, PERFORM, and CREGES (an FRQSC and MSSS CAU Centre for Research and Expertise in Social Gerontology) and researchers from all four faculties, students, and staff. The second is Complexe Cousineau, once a jewel of a mall in St Hubert, which now serves as an outstanding example of how declining malls continue to thrive through senior-led activities (DeRosa, 2018) (See Photo 4). An ethnographic study will be conducted to understand the phenomenon of senior-led activities and "community defined evidence" collected (Martinez et al., 2010), including the aforementioned popular dance club (De Rosa, 2018). Focus groups and/or individual qualitative interviews will be added to inform this case study.

The third mall is Place Newman, located in La Salle, another example of a declining inner suburb mall that will be added to increase diversity of participants for outreach and dissemination of research.

Phase II (Year 2): Validate and document new knowledge emerging from exchanges through implementing three week residencies every other month with themes that cross all four faculties at Concordia University. Invitations to researchers and scholars from other universities and colleges will be sent based on the questions and needs collected from the older adults in Phase I. A shared schedule will be prepared to invite stakeholders including the oldest-older adults, visiting groups from Montreal Senior Centres, Senior-led Art Hives, schools and college students on field trips to the mall. We will ask open ended questions such as: “What supports you in being healthy?”, “What practices do you use for self-care?” and “What do you wish to improve in your daily environment?”.

There will be multiple skill sharing opportunities and public science conversations and demonstrations that will contribute to develop a comprehensive and holistic age-friendly program of enrichment specifically designed for and by older adults; these range from dance to knitting to poetry groups, food preparation skills to meal sharing, and from social prescribing to intelligent exercising. Co-designed research for the benefit of the older adult communities will also be conducted during this phase. For example, older adults living alone are at greater nutritional risk than those living with others. A proposed research project led by Dr. Li with support from Pat McKinley, will address the nutritional, psychosocial and physical activity needs of adults aged 65 to 85, by planning, cooking and sharing meals together (See Photo 5). Outreach activities and research in this phase will support the development of interventions and innovations with the inclusion of the care of vulnerable older adults who may be isolated, dealing with a loss of autonomy, lacking sufficient housing and/or experiencing mental or physical health challenges.

We will document our day to day experiences using three-part Field Notes (Zlotkowski, 2011) which includes the intricacies, opportunities, and challenges associated with designing community spaces to support replication and scaling as well as policy relevant insights and best practices for the government to incorporate into their age-friendly work. This phase will be measured by carefully counting participant attendance and through a range of researcher specific evaluations following skill-share activities in order to quantify results of the activities, capturing senior’s and researcher’s reflections on qualities such as quality of life or self-efficacy measures being tested.

Phase III (Year 3): Launch Network and Scale Out through Multiple Dissemination Methods with oversight from older adult stakeholders including our research practitioners, Swim & Oprea. The results will be collated, analyzed, and artfully designed for wide dissemination through proven open source model developed by the Art Hives’ HQ, for establishing older adult creativity and technology labs across Quebec communities, especially in rural areas. Further scaling across Canada, as well as international settings involving different user groups/organization, and community cultural organizations providing participatory activities. The Art Hives Network, established in 2012 at Concordia University, has successfully utilized non-competitive forms of research dissemination through social media linked websites and have grown a network of 164 art hives over the past 7 years. Novel methods including traveling art exhibits (See Photo 6), student-made zines, and an on-line Art Hives: How to Guide (Timm-Bottos & Chainey, 2015) can be found at <http://arthives.org/resources/art-hives-how-guide> (See Photo 7). In addition to these resources, the findings of this research will be disseminated through articles in the Canadian and American Art Therapy Journals, the Innovation in Aging Journal and presentations at these and other researcher Associations’ annual conferences, as well as at the Latin American Art Therapy Conference, where the PI is an invited keynote speaker in 2020.

TEAM MEMBERS SPECIFIC CONTRIBUTIONS, ABILITY TO INNOVATE AND ANTICIPATED BENEFITS:

This project has evolved out of enthusiasm and creative discussion between multidisciplinary researchers who are members of Concordia’s engAGE Centre for Research on Aging, and the Art Hives, founded and initiated by the PI, Dr. Timm-Bottos. The vision for the proposed project is to bring together community stakeholder expertise, researcher/research-creator expertise, and student energy

and expertise to respond collaboratively to health-related problems and challenges impeding older adults' abilities to live full and creative lives.

A dynamic synergy is expected to emerge between using the methodologies of Living Lab and fostering new innovation research methodologies that promote co-creation process with older adults under real-life conditions occurring in inner suburb mall settings. Concordia University recently launched its Fourth Space which is an “immersive experience designed to bring knowledge and ideas to life. It offers programming grounded in innovation and creativity, revealing research and experiential learning activities that focus on compelling issues surrounding humans, culture and society – in inspired and inventive ways.” The PI took part in the official launch through piloting two urban innovations, an art hive and sand world residency in “Urban Essentials” (See Photo 8). This project will build on these excellent experiences in the successful co-creation and implementation of innovative strategies and spaces.

Dr. Janis Timm-Bottos (Principal Investigator), is an Associate Professor of Art Therapy in Creative Art Therapies in the Faculty of Fine Arts and serves as the Director of the Art Therapy Program and the lead for Culture, Creativity and Aging axis of the engAGE Governing Board. Founder and Director of the Art Hives Initiative and Network, and having served as the Provost's Fellow for community engagement and Fellow for SHIFT: Centre for Social Transformation, Timm-Bottos brings a strong ethical vision, successful administration, and 25 years of sustained practice-research culminating in a range of examples of third spaces that welcome all ages, especially those who have been marginalized, to become students and teachers for each other in order to convene, converse, plan, and solve problems while building community together. Within several years of Timm-Bottos' appointment at Concordia, a sustainable model was launched, trainings initiated, culminating today in 164 art hives networked world wide, 40 in Montreal, many led by her students, with a million dollars of private funding, and university resources raised to support the development of an Art Hives HQ and Concordia University Art Hives (See Photo 9). Art Hives partners include Office municipal habitation de Montréal (OMHM), Montreal Museum of Fine Art (MMFA), McGill University, City of Montreal, and the Donald Berman Maimonides Geriatric Centre. A former physical therapist and a current Board-Certified art therapist, Timm-Bottos worked for decades in health care and community settings, academically contributing knowledge through her PhD studies in critical cultural geography and contemporary urban issues and as a proponent of service learning with her students (Timm-Bottos & Reilley, 2014; 2015). This interdisciplinary background in both science and the arts make her excellently suited to lead this intersectoral FRQ-S project, bridging a strong team of researchers, research-creators, and community members. For the proposed project, Timm-Bottos' specific contribution will be to provide leadership and oversight to the entire project, and along with the engAGE team, students, collaborators and partners, connect people across academic siloes and socio-economic divides. She will bring her knowledge and expertise of setting up welcoming spaces in order to begin this project with a place to meet and share and create new knowledge in order to respond to complex problems facing aging adults.

Dr. Najmeh Khalili Mahani (Co-investigator) is a biomedical engineer and neuroscientist at PERFORM Centre and a research associate in McGill Centre for Integrative Neuroscience. Her research builds on her extensive experience on studying the impacts of stress and psychoactive drugs on the brain. She also has a background in Film Studies, with specific focus on popular films as a source of collective and community resilience. Currently, she is exploring the relationship between media technologies and stress, in order to develop preventive interventions that help build resilience against chronic stress, which is linked to social isolation, chronic health conditions and age-related mood disorders or cognitive decline. She will contribute to setting up a “Multimedia Spa” corner in the living lab where older adults will have the opportunity to relax, play and interact by playing digital games and watching films. Her role will be to interact with researchers and students in design, engineering, humanities, or psychology, on conceptualizing new media content or forms to address the

problems of stressful social isolation; and also experiment with a variety of technologies available to them, such as computers, game consoles, video cameras, and tablets to explore possibilities of intergenerational and self-reflective co-creativity through the use of technology.

Dr. Karen Li (Co-investigator) is a Professor of Psychology at Concordia, Research Member of the Centre for Research in Human Development and PERFORM Centre, and Associate Member of the engAGE Centre. Li's research focuses on the normative age-related changes that occur in the cognitive, motor and auditory systems, and how these changes interact and affect everyday tasks such as walking or balancing while at the same time, engaging in some mental activity such as listening, remembering, or conversing. Promoting healthy functioning and independence through social stimulation, exercise, and new learning (e.g. cooking lessons) have been a special focus that will be enhanced through interactive senior-led initiatives that the Living Lab context offers. Besides contributing to the scientific dossier of this project, Li's specific contribution will be to promote an intergenerational exchange-seniors teaching younger generations "lost skills," which include knitting circles, other crafts, and woodworking. Another collaboration she would like to bring to the community space is a cooking-based project with physiotherapist, Patricia McKinley.

Dr. Laurel Young (Co-investigator) is an Associate Professor of Music Therapy at Concordia University, an accredited music therapist (MTA), psychotherapist (OPQ), and a certified practitioner in the Bonny Method of Guided Imagery and Music. She has over 24 years of clinical and community-based experience in various areas including geriatrics, dementia care, community mental health, and developmental disabilities. Young's current research and advocacy efforts focus on realizing the myriad of ways music can be integrated into various contexts to help people reach their full potential for living well (i.e., creating models of best music practice). This includes creating healthy sound environments. She is the Associate Director of engAGE and a research member of the Centre for Research and Expertise in Social Gerontology (CREGÉS), the PERFORM Centre, and Concordia's Arts in Health Research Collective (AHRC). Young's contribution to the project will be to understand the musical needs and desires of the participating older adults, and to offer recommendations for creating healthy sound environments in these spaces to better empower and enhance stakeholders' quality of life.

Dr. Meghan Joy (Co-investigator) has an M.Sc. in Planning, a PhD in Policy Studies and is an Assistant Professor in the Department of Political Science at Concordia University. She serves as the lead for the Politics, Policy, and Economies of Aging axis of the engAGE Governing Board and is the Co-Director of the FRQSC-funded L'équipe de recherche en partenariat VIES (Vieillissements, exclusions sociales et solidarités). Joy's research interests include the politics of population aging, theories and practice of progressive politics and policy in cities, and the shifting policy role of the nonprofit sector. Her ongoing research examines the ways in which municipalities and nonprofit actors develop and implement the Age Friendly City program in Canada's largest urban centres. Joy is particularly interested in how local governments can foster creative and participatory spaces and programs to facilitate rights-based approaches to age-friendly cities in actual urban contexts. Joy's specific contribution will be to conduct a global analysis on how the creative use of urban space is incorporated into age-friendly city policy strategies, including how governments act as barriers and enablers with respect to rules and regulations (i.e. zoning bylaws and funding). She will facilitate discussions through art hive methodologies on what an age-friendly city would look like for senior citizens. This will inform the development of better practices on how to run grassroots consultations for senior citizens that use different forms of expression.

Dr. Linda Dyer (Co-investigator) is a Professor of Management at Concordia University. Dyer studies the establishment of relationships between the owners of small businesses and their employees. A second stream of research is the organizational impact of demographic diversity, specifically in age, ethnicity and gender. Her research draws on diverse fields including individual cognition, learning and cognitive biases, and the interplay between emotions and cognition. Dyer's research practice includes

investigating older adult's motives to mentor younger colleagues, as well as the younger workers' reactions to getting advice from their elders. She examines these processes among small business owner/managers, academics, independent professionals such as artists, accountants and health professionals, as well as workers within large business organizations. Dyer studies the current work environments, which is characterized by increasing longevity, changes in pension arrangements, and the growth of knowledge and the importance of work, late-career and retirement decisions affect our multi-generational organizations as well as the people who work in them. Her specific contributions to the project will be to share her findings about the end of the work career. Dyer will bring her wealth of knowledge for the benefit of older adults as well as to help assess the socio-economic impact of older adults engaging in repurposing aging malls.

Dr. Shannon Hebblethwaite (Co-investigator) is Director of engAGE: Concordia's Centre for Research on Aging and Associate Scientific Director of CREGES. As Associate Professor in Leisure Studies, Shannon's program of research explores and advocates for opportunities to enhance social inclusion for older adults through leisure and intergenerational experiences. Her work in the Living Lab will complement the other researchers by co-creating opportunities for leisure experiences that promote meaningful involvement of older adults in their communities. Specifically, she will create opportunities for older adults to engage with digital media (laptop, tablet, social media) of their choosing to communicate with their families or with youth groups in the community. The goal of this work is to sensitize multiple generations to issues of ageism and decrease stereotypes of aging in order to enhance social inclusion and belonging.

Tracie Swim (Practitioner Co-Investigator) brings 35 years of business experience to the project, of which the last eight have been spent developing projects advancing seniors' well-being. Her leading roles in the Extra Miles Seniors Visiting Program, the Montreal-West Municipalités Amies des Aînés Steering Committee, and the West-End Intergenerational Network, have provided her with a strong and vast network of partners and connections to hundreds of seniors living in the area where the Living Lab project will take place. She intends to bring her management experience to support the optimal administrative success of the project, as well as do outreach within her professional networks to bring participants to the project. Her multiple grassroots connections with the local senior population, including intergenerational networking, will help the research team ensure that its activities are aligned with and complement what is already being done in the community.

COLLABORATORS SPECIFIC CONTRIBUTIONS:

Dr. Julie Beauchamp, Coordinator for the CREGES Leading Practices in Inclusion, Diversity, Health and Wellbeing (IDSB). Julie brings expertise in the social participation of marginalized older adults, particularly the LGBTQ community. She facilitates linkages between research and practice.

Dr. Emily Coffey is an Assistant Professor in Psychology who studies neuroplasticity, the auditory system, sleep and aging, using musical training as a paradigm to enhance and restore brain function. She uses neuroimaging tools and light, portable measurement devices to record people's workload, emotional reactions, interest level, and sleep quality.

Dr. Satoshi Ikeda, Associate Professor of Sociology is developing a homeshare program that promotes inter-generational co-housing. The program develops companionship and mutual support for healthy and sustainable living for older adults.

Dr. Jailson Lima, Chemistry teacher from Vanier College who recently won the Beaumier award for his innovative way of incorporating visual arts into his chemistry curriculum.

Dr. Patricia McKinley is a retired McGill Physiotherapist associated with CRIR (Centre for Interdisciplinary Research in Rehabilitation of Greater Montreal) who specializes in using leisure based activities to promote physical and mental well-being in vulnerable populations, using primarily Dance.

Dr. Anita Sinner, Associate Professor of Art Education, is co-applicant on a SSHRC Insight Grant that explores student-teacher identity development, lifelong learning and third-age learners. Ongoing research with the Concordia Seniors since 2012 has resulted in new teaching strategies.

Dr. Rebecca Tittler, Part-time Faculty and Coordinator of the Loyola College for Diversity and Sustainability and Department of Biology, will bring expertise in the topics that pertain to biodiversity, sustainability, and urban ecosystems.

LEVEL OF INVOLVEMENT - COMMUNITY STAKEHOLDERS AND USERS OF RESEARCH RESULTS:

The main stakeholders are the older adults who find the “little old malls” as places to break social isolation and loneliness and are willing to join a collaborative space of inquiry for the health of it. Older adults play a leading role in this innovative project as the university researchers recognize the many ways that older adults “make use and make sense of mall spaces” (De Rosa, 2018). Stakeholders include older adult mentors associated with the Montreal Art Hives Network, many of whom are living in social housing, as well as retail mall owners, business owners (Rossy stores), and cultural partners including, l'Office municipal d'habitation de Montréal (OMHM), Loyola College of Diversity and Sustainability, and PERFORM Centre, a university research centre dedicated to studying preventive health. PERFORM scientists are willing to share resources to deepen the scope of our proposed project with analysis of empirical data on the impact of our proposed approach on measurable physical and health outcomes.

Potential Users of Research Results include other older adults who would like to establish their own creative living lab in declining shopping malls, similar to the cascading growth of the art hives, where each art hive spawns another and so on, resulting in 40 art hives in the Montreal area led by art therapists, art educators, teachers, clinicians, community members, etc. Other potential users are organizations such as L'Arche International, seeking “reverse inclusion” where older adults with Intellectual Disabilities/Developmental Disabilities (ID/DD) take the lead in teaching younger adults. Other users may be mall and store owners linking their business to social enterprise development to enhance their businesses. Additionally, we will be targeting relevant philanthropists and policy makers with this research to launch and sustain these emerging new community partnerships.

An outing destination for community Day Cares, such as Alzheimer Groupe Inc (AGI) and other oldest-older adult residential care facilities will be targeted for inclusion in activities happening at the mall setting, along with school groups, which would provide opportunities for structured and/or organic intergenerational interactions.

This ongoing site of research and active older adult social programming will be an excellent site of expertise to understand the multiple points of view necessary to understand complex topics. Other potential users would be policy makers, TV, and print media professionals to expand understanding of health implications of social isolation on older adults from a scientific and proactive point of view.

Ability to Innovate and Anticipated Benefits: This project and its community stakeholders and university partners will to innovate new ways of engaging older adults in transformational community processes that will boost ideas of circular economies within stale economic venues. For example, we have learned through the initiation of the Art Hives Network that scale matters in order to attract large, ongoing financial support. This initial project will be tested in 3 malls in hopes of gathering enough data to be relevant to many other communities across Quebec, Canada and beyond. It is within these emergent relationships new leadership models emerge, and citizens assume their role in the debate.

DISSEMINATION AND TRANSFER STRATEGY:

The following multi-pronged dissemination and transfer strategy plan will be devised to target audiences including: stakeholders, scholars and students, the general public, and policy makers:

The **Open Source Kit** on “Living Labs for Older Adults: How to Guide” will be text-based with numerous photographs which will include links to You Tube shorts and webinars to inform the general public about the health issues associated with this serious health problem, who is especially at risk and how to come together as a community in partnership with universities to develop a space for creative arts and technologies for older adults. It will be made available free of charge to the public at large, through links to multiple relevant websites and announced through newsletters and social media. Please see Art Hives: How to Guide <http://arthives.org/resources/art-hives-how-guide>

Another example of these digital kits is the Listening Circles Toolkit that helps communities set up settler listening circles to provide structure and support for understanding and taking action for indigenous Truth and Reconciliation processes. <http://arthives.org/resources/listening-circles-toolkit>

Scholarly **peer-reviewed articles** will be submitted to relevant journals, such as Innovations in Aging, a new journal launched last year, <https://academic.oup.com/innovateag> as well as other more established journals that our researchers are familiar with. **Scholarly presentations** will be made across the province and beyond in new and well established relevant conference settings. For example, CREGES, a strong partner of this research project, will contribute to the dissemination of information throughout its network via a bilingual newsletter (published every 2 months, 700 + subscribers) and social media. They have also offered to organize a lunch-time conference to disseminate information about this project within their West Central Montreal Health Network about this project to practitioners, managers, interns, service users, their families. The lunch time conferences are also open to the general public, universities, decision makers via webinars. **White papers and discussion sessions** with policy makers and funders will broaden transfer of research results, and ensure that recommendations on cost-effective means for supporting older adults' mental health, including creative community building efforts will be planned at city, provincial and federal levels. This will lead to opportunities abroad.

Presentations to the general public will be integrated throughout the project with a vernissage for each 3-week residency to be held every other month. Older adults and stakeholders will be important contributors to disseminating project results to local communities while participating as much or as little as they want in academic dissemination activities. Frequent open house days that involve art shows, music performances, poetry readings, and/or other types of participatory events where the public is invited to participate. Lastly, Concordia's communication office will contribute promotion of the project along with local News stations (CBC, CTV, Global), related websites, engAGE mailing list; PERFORM mailing lists and all the likely and unlikely places, such as washroom stalls, door-to-door conversations to get the word out will be a priority of knowledge transfer for this unique project.

SCIENTIFIC AND SOCIO-ECONOMIC IMPACT:

Data continues to confirm a seventy-year-old theory that social relationships play a crucial role in changing the thresholds of resilience to physical and psychological risk factors and, yet, the numbers of older people negatively affected continues to grow. The socio-economic impact this project will demonstrate is a cost-effective, place-based action plan. By bringing science to older adults in creative ways in neighborhood malls, a replicable model will emerge and begin to inform and influence broader social changes. For example, recent literature on the Age Friendly City movement continues to identify gaps between urban studies (that explore changes in cities related to urbanization, gentrification, austerity, the privatization of space), and the research on health and aging in cities. These gaps between sectors are where the cost-effective innovation will happen. The creative re-use of the changing retail landscape in cities by older adults who have taken leadership to replace the "loss of activities," formerly provided by the government, is an ideal starting point to explore this phenomenon, as well as other ideas older adults have to invest in their own and their families' futures. Importantly, this intersectoral research will develop a new process of taking science into real life practice, and as importantly but sorely missing, taking older adult's everyday practices in the form of "community defined evidence," back to the university researchers to inform their science production. Establishing this back-and-forth bridge will offer many opportunities to explore policies that can respond and support the development of cost-effective citizen-led innovative programs, practices and products for older adults, and provide a community-driven methodology that will seek replication so that best practices of the people and the scientists can be proliferated and incorporated into age-friendly cities in order to enrich everyone's aging everyday lives.