



McMaster Institute for Research on Aging

FIVE YEAR REPORT | 2021-2025



Institute for
Research on Aging





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Introduction



Parminder Raina

A message from **MIRA's Scientific Director**

By 2035, one in four Canadians will be over the age of 65. This demographic shift will have implications for individuals, families, communities and our health and social systems. Since its establishment in 2016, the **McMaster Institute for Research on Aging (MIRA)** has been leading the way, driving research and innovation to improve the daily lives of older adults.

As we celebrate a decade of progress, we do so with immense pride in what the MIRA community has accomplished. Over the past ten years, our members, staff, leadership and dedicated champions have worked with unwavering commitment to shape and advance MIRA's mission. Together, we have built a vibrant interdisciplinary community that transforms aging research into meaningful impact.

During its first five years, MIRA focused on establishing a strong foundation for aging research at McMaster University. This included creating new training and funding opportunities for researchers and trainees, fostering interdisciplinary collaboration across all faculties and developing meaningful partnerships with community organizations. These early efforts laid the groundwork for long-term success and positioned MIRA as a catalyst for innovation in aging research.

A major milestone in this formative period was the launch of MIRA's first formal research centre, the **Labarge Centre for Mobility in Aging (LCMA)**, which was created to advance initiatives addressing the risks and consequences of mobility decline. As MIRA's community of researchers and strategic networks expanded, so did its capacity to pursue interdisciplinary research directions that extend beyond mobility and deepen understanding of aging in all its complexity.

MIRA was founded with a bold vision: to be a trailblazer in community-engaged aging research. This vision came to life through initiatives such as the **MIRA | Dixon Hall Centre (MIRA | DH)**, a unique collaboration linking community-based care in Toronto with cutting-edge research that expands to diverse equity-deserving older adults. The Centre exemplifies MIRA's commitment to community engagement, inclusive innovation and addressing the diverse and evolving needs of aging populations.

Advancing its strategic goals, MIRA launched the **Aging Brain Research Program** in 2024, supported by a \$7.5 million investment. This program builds on McMaster's existing strengths while developing new initiatives to better understand how the aging brain interacts with functioning. This is a critical step toward improving health outcomes for older adults.

Over the past five years, MIRA has firmly established itself as McMaster University's flagship institute for aging research and is recognized across Canada and internationally. Building on a strong foundation, MIRA has expanded its focus to strategic and intramural research, created innovative programs and services, and transformed its major programs of research into robust research platforms. MIRA has also become a national leader in community engagement, supporting projects that validate technologies in real-world settings and enhance older adults' quality of life. Increasingly, the Institute is strengthening its emphasis on demonstrating and measuring tangible impact.

MIRA's strength lies in its interdisciplinary design and human-centred approaches, bringing together researchers from all six faculties at McMaster University. This diversity of perspectives ensures that MIRA-supported research is built from the outset to deliver practical, human-centered solutions. Today, MIRA includes 213 faculty members spanning 51 departments across the university, and has supported more than 600 trainees since the inception of the MIRA Trainee Network. Our commitment to equity, diversity and inclusion align with McMaster's institutional values, guide our work and shape the communities we serve.

This five-year report highlights the achievements, programs, and impacts of MIRA and its dedicated research centres. As we conclude our tenth year of full operation, we take pride in the influence MIRA has had, and continues to have, on the culture of aging research, both within academia and across the broader community. Our work spans education, research and community-based initiatives, all aimed at improving the lives of older adults.

Looking back over the past decade, one of MIRA's defining achievements has been the successful establishment of aging as a core research priority at McMaster University. This milestone reflects the enduring commitment of Suzanne Labarge to support research centres and programs such as the LCMA, MIRA I DH and Aging Brain Research Program as well as the support of the Provosts, Vice-Presidents of Research, and senior university leadership who have been instrumental in advancing this shared vision.

MIRA's growth and impact continue to be inspired by the vision and generosity of Suzanne Labarge, whose steadfast commitment to improving the lives of older adults guides our mission and propels our work forward.

With warmest regards,

Dr. Parminder Raina

Scientific Director, McMaster Institute for Research on Aging

Scientific Director, Labarge Centre for Mobility in Aging

Raymond and Margaret Labarge Chair in Research and Knowledge Application for Optimal Aging

Measuring Impact – Integrating the DORA framework

As MIRA approaches its tenth year, the Institute continues to refine how research excellence is defined and demonstrated. Central to this evolution is a deepened focus on understanding how aging research drives meaningful change within academia, across sectors and in the daily lives of older adults and their communities.

From its inception, MIRA's approach to supporting aging research has been guided by a single overarching goal: to maximize research impact. The Institute has worked deliberately to position its researchers and their findings for real-world influence, while developing more meaningful and comprehensive ways to recognize and measure that impact.

Recognizing that research influence extends far beyond traditional academic metrics, such as journal impact factors, MIRA has embraced a broader and more inclusive perspective – one that values the translation of knowledge into policy, practice, and community benefit. This shift aligns closely with the **Declaration on Research Assessment (DORA)**, established in 2012, which calls for improved approaches to evaluating researchers and research outputs. Today, DORA represents a global movement spanning disciplines and sectors, engaging funders, publishers, professional societies, institutions and researchers worldwide.

In this report, MIRA applies the DORA-informed framework "Rethinking Research Assessment: Building Blocks for Impact" (Schmidt, 2022) to describe the influence of the Institute and its researchers. The framework considers two key dimensions: scale of influence and reaching new audiences

Together these provide a holistic and nuanced view of how MIRA's work is shaping the future of aging research across disciplines, sectors and communities.

A message from the MIRA | Dixon Hall Centre Director



The MIRA | Dixon Hall Centre stands as a powerful example of what becomes possible when academic research and community service come together with a shared purpose: **ensuring that everyone can age with dignity**. Since its formation in 2021, this partnership between the McMaster Institute for Research on Aging and Dixon Hall has united research excellence with decades of community-based care to create meaningful impact in Toronto's Downtown East and beyond.

In less than five years, we have built a dynamic hub for innovation, collaboration, and inclusion. Together, we have undertaken projects that address some of the most pressing issues facing older adults: mobility, housing stability, digital access, mental health and social connection. Through initiatives such as **MacM3 (Monitoring My Mobility)**, **EMBOLDEN**, and **HCP@Clinic**, we are bridging cutting-edge research with real-world practice to support older adults in remaining mobile, healthy, independent, and engaged in their communities.

Our commitment to community-driven research is reflected in programs such as the **Snacks & Science** learning series and the work of our **Community Advisory Group**, which provide meaningful avenues for lived experience to shape research questions, methods, and outcomes. This two-way flow of knowledge that goes from the research lab to the community and back has strengthened the relevance, responsiveness and impact of our work.

The Centre's growth has been guided by core values of inclusivity, empowerment, dignity, and respect. We are proud to amplify voices that are too often overlooked in traditional research settings, ensuring that our work reflects the rich diversity of the older adults we serve.

The relationships we have built with community members, partner organizations and funders are the foundation of our success. We extend our deepest thanks to our partners, volunteers and community members who have helped shape these first five years.

As we look ahead, we remain steadfast in our commitment to building communities where everyone can age well. The MIRA | Dixon Hall Centre is proud to continue its work as a beacon of inclusive innovation, co-creation and community-engaged research.

Marla Beauchamp
Director, MIRA | Dixon Hall Centre

MIRA | Dixon Hall Centre





About The McMaster Institute for Research on Aging

Established in 2016, The McMaster Institute for Research on Aging works to optimize the health and longevity of Canada's aging population through leading-edge research, education and stakeholder collaboration. MIRA facilitates and amplifies aging research across every Faculty at McMaster University and acts as a robust entry point to many of McMaster's established platforms in aging.

An interdisciplinary approach

The MIRA is internationally recognized for advancing interdisciplinary and user-focused approaches to aging research. At the heart of MIRA's success is the integration of design thinking – an empathy-driven, iterative and collaborative methodology – across its research, training and community engagement activities. This approach brings together diverse disciplines to generate innovative, real-world solutions that reflect the lived experiences and priorities of older adults. It provides an ideal framework for connecting researchers from diverse disciplines with older adults, community partners and other stakeholders to work together to define problems, brainstorm solutions and share research outcomes in ways that are meaningful to users.

Design thinking principles and interdisciplinarity are embedded throughout MIRA's funded research and trainee awards, including its **Major Programs of Research: EMBOLDEN, MacM3, PACIFIC and EMPOwRD**. These interdisciplinary initiatives unite researchers, clinicians, community partners and policymakers to co-design research and interventions that promote mobility, health and well-being in later life.

MIRA has extended this approach to the **MIRA | Dixon Hall Centre**, beginning with the Design Thinking-inspired Town Hall that engaged Dixon Hall's front-line staff and leadership in collaboratively defining local challenges and opportunities for better serving Dixon Hall's aging population. This approach facilitates embedding major ongoing projects within communities served by Dixon Hall, generating data that more accurately reflects the lived realities of equity-deserving older adults, which is a critical gap in aging research.

MIRA's leadership in applying design thinking to complex health and social challenges has also been recognized globally. At the invitation of McMaster's Faculty of Health Sciences, MIRA led two well-received sessions at the **U21 2025 Health Sciences Meeting**: a Design Thinking Masterclass and Workshop attended by more than 70 international trainees and an Aging and Mobility Plenary featuring lightning talks from MIRA's **Major Programs of Research**. The plenary culminated in a large-scale design sprint during which nearly 200 participants, including McMaster leadership, international delegates and trainees collaboratively applied design thinking principles to address real-world aging challenges that they identified. The U21 collaboration has opened the door to meaningful international engagement, strengthening MIRA's global network and extending the reach of its expertise. Through this partnership, MIRA has developed new research connections with colleagues in Chile who are advancing aging research in their own national context.





These collaborations have already gained momentum. Drawing on MIRA’s leadership in interdisciplinary aging research, Chilean researchers have submitted three proposals focused on health aging and mobility – areas of shared priority for both countries. These proposals reflect not only growing international interest in MIRA’s approaches, but also the potential to co-develop studies that compare aging across diverse social, cultural and health-system contexts.

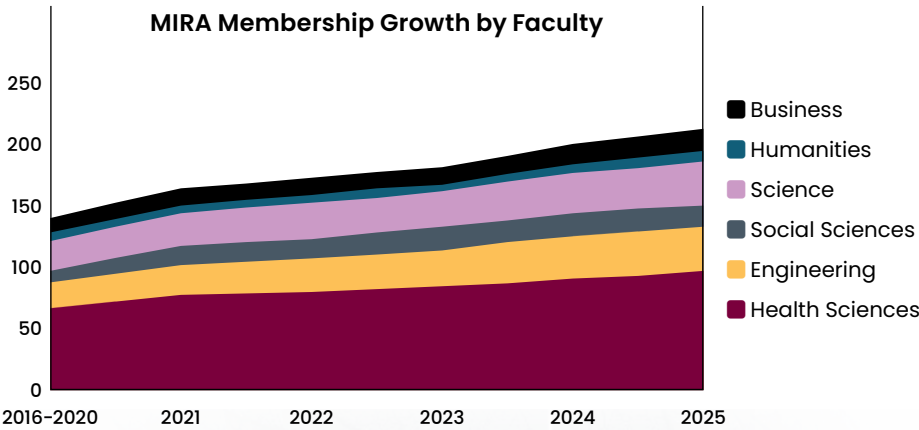
By fostering these relationships, MIRA is contributing to global capacity in aging research while creating opportunities for future joint projects, trainee exchanges and comparative studies. This international engagement strengthens MIRA’s role as a catalyst for innovation in aging research and deepens its impact beyond Canada’s borders. MIRA researchers have also made significant contributions to the scholarly discourse on interdisciplinarity and co-design. The forthcoming book chapter, *“Does Design Thinking Work in the Long-Term? A Case Study of Interdisciplinary Research on Aging”* (White, P.J., Patocs, A., Beauchamp, M., & Raina, P., 2025, in *Design Thinking Theory and Practice*, Taylor & Francis), offers a critical examination of MIRA’s interdisciplinary design thinking practices over time and their influence on institutional culture and research outcomes. Complementary works such as *“Co-design for Interdisciplinary Research Communities”* (White et al., 2023, International Association of Societies of Design Research) and *“Interdisciplinary Trainee Networks to Promote Research on Aging”* (Harvey et al., 2023, Gerontology and Geriatrics Education) further demonstrate MIRA’s leadership in developing collaborative and inclusive aging research ecosystems.

Through its innovative programs, community engagement, academic scholarship and international partnerships, MIRA members continue to lead the way in reimagining aging research. MIRA is bridging disciplines, fostering collaboration and empowering communities to co-create a healthier, more inclusive future for all ages.



The MIRA research community

Following rapid growth to 140 members in its first five years, MIRA has continued to expand, attracting new members, including many early career researchers. MIRA now has 213 members across all six Faculties, representing 51 departments. Health Sciences faculty have been the largest segment of MIRA members since inception and efforts over the past five years to engage new researchers have been successful in connecting MIRA to new member from the other Faculties. Indexed to the number of Faculty of Health Sciences (FHS) and non-FHS members in 2020, the current number of FHS MIRA members has grown by 42%, while the number of non-FHS members has grown by 61%.



MIRA Researchers
come from

51

departments & schools
across McMaster

- Anaesthesia
- Anthropology
- Biochemistry & Biomedical Sciences
- Biology
- Chemical Engineering
- Chemistry & Chemical Biology
- Civil Engineering
- Communication Studies & Media Arts
- Computing & Software
- Earth, Environment & Society
- Economics
- Electrical and Computer Engineering
- Engineering Physics
- Engineering Technology
- English & Cultural Studies
- External
- Family Medicine
- Finance and Business Economics
- Geography & Earth Sciences
- Global Peace and Social Justice
- Health Policy & Management
- Health Research Methods, Evidence & Impact
- Health, Aging & Society
- Human Resources & Management
- Information Systems
- Interdisciplinary Science
- Kinesiology
- Linguistics & Languages
- Marketing
- Materials Science & Engineering
- Mathematics & Statistics
- Mechanical Engineering
- Medicine
- Medicine - Geriatric
- Medicine - Respiriology
- Nursing
- Obstetrics and Gynecology
- Oncology
- Operations Management
- Pathology and Molecular Medicine
- Pediatrics
- Physics and Astronomy
- Psychiatry & Behavioural Neurosciences
- Psychology, Neuroscience & Behaviour
- Rehabilitation Science
- Religious Studies
- School of the Arts
- Social Work
- Sociology
- Strategic Management
- Surgery



MIRA and Labarge funds have supported over

43

research projects in the past five years in comparison to 26 projects overall in 2016–2021.

- 27 catalyst grants
- 2 strategic initiatives
- 2 Major Programs of Research
- 5 Dixon Hall projects
- 7 co-funded projects with collaborators
- 8 projects using CLSA data

By strengthening its research network, infrastructure and cross-disciplinary collaborations, MIRA has advanced knowledge on aging. This spirit of collaboration has been shaped by MIRA’s unique funding programs, student awards that promote co-supervision across Faculties and initiatives that bring researchers together around shared priorities in aging. MIRA has also supported researchers in collaborating beyond McMaster, through funding calls that target international collaboration, coordinating visits by world-renowned researchers, participating in university-led initiatives such as the U21 Health Sciences meeting and Commonwealth Games programming with the University of Birmingham. MIRA’s researchers have a breadth of connections across Canada and internationally. These efforts have proved fruitful, as MIRA researcher demonstrate success in securing competitive funding requiring interdisciplinary collaboration and high risk, high reward approaches such as the New Frontiers for Research Funding (NFRF).

Collaboration Network MIRA&Labarge-funded research

MIRA- and Labarge-funded publications (337 papers acknowledging MIRA or Labarge as a funder) support a vast academic collaboration network nationally and globally. McMaster authors (large, light blue circle in the centre) have used MIRA & Labarge funds to support collaboration with researchers at institutions depicted in the figure. Larger circles are associate with a higher number of papers, not all institutions are shown. Source: Dimensions Analytics.

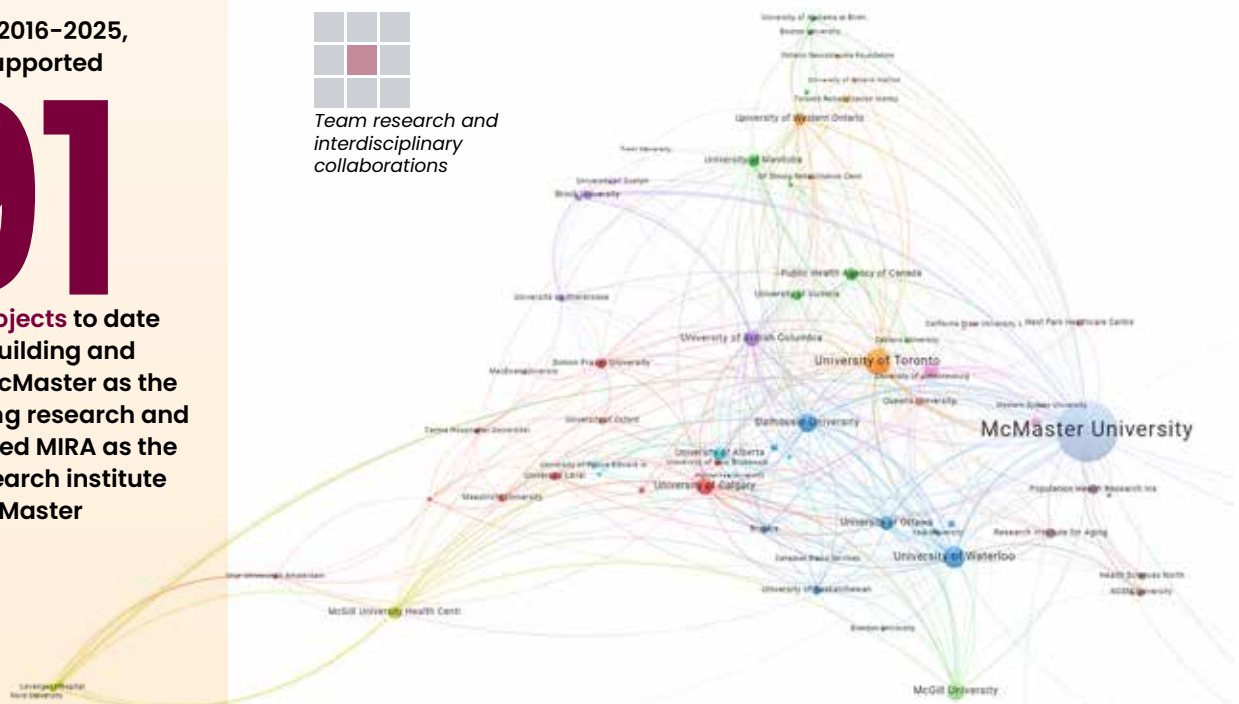
Between 2016–2025,
MIRA supported

91

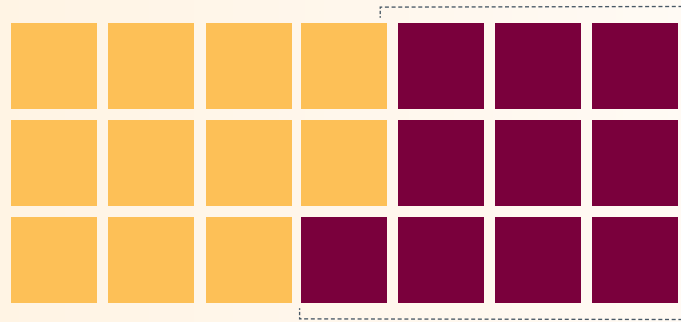
research projects to date that are building and supporting McMaster as the leaders in aging research and has established MIRA as the flagship research institute at McMaster



Team research and interdisciplinary collaborations



McMaster received
21
NFRF grants in 2021–24



10
NFRF grants led by
MIRA researchers

The New Frontiers in Research Fund (NFRF) supports world-leading interdisciplinary, international, high-risk/high-reward, transformative Canadian-led research. NFRF is administered by the Tri-agency Institutional Programs Secretariat, on behalf of the Social Sciences and Humanities Research Council (SSHRC), the Canadian Institutes of Health Research (CIHR) and the Natural Sciences and Engineering Research Council (NSERC).

MIRA researchers are well positioned for success in this highly competitive program, having a strong history of interdisciplinary collaboration and a culture of impact-focused research.

Between 2021 and 2024, McMaster received 21 NFRF grants totaling \$30.6M. **MIRA researchers led 10 of these awards worth a total of \$26.6M**, including a \$24M NFRF-Transformation grant awarded to Jennifer Walker for the project “Weaving Indigenous community-led and interdisciplinary research to develop culturally-safer wholistic brain health assessment.”

The MIRA Trainee Network

Since launching in 2017 with 45 graduate students and postdoctoral fellows, the MIRA Trainee Network, which now includes undergraduate students too, has expanded to support 178 members in the 2025–2026 academic year. All MIRA-funded trainees are members on the network as well as any trainee working with a MIRA researcher or conducting aging-related research at McMaster.

MIRA has funded 240 trainees since its inception and through co-funding and expanded program reach, in the past five years, 141 trainees were supported (see Appendix A for more detail):

- 5** master’s students
- 10** PhD
- 21** postdoctoral fellows
- 34** undergraduate summer research fellows
- 17** co-funded trainees
- 54** Graduate Student Professional Development Awards



To date, 620 individual trainees have participated in the Network, contributing to MIRA’s culture of interdisciplinarity and developing skills in collaboration, innovation and communication that position them to become the next generation of leaders in aging research.

Partnerships have broadened MIRA’s reach and impact, with members and trainees leveraging MIRA and LCMA funding to support, advance and communicate their research.

2025	MIRA/LCMA investment	Partner contributions	TOTAL	Leveraged
Trainee Funding	328,960	234,092	500,052	8,612,032
Research Grants	1,002,101	14,388,700	15,390,801	
2024	MIRA/LCMA investment	Partner contributions	TOTAL	Leveraged
Trainee Funding	313,500	214,600	528,100	7,007,693
Research Grants	2,116,951	558,600	2,675,551	
2023	MIRA/LCMA investment	Partner contributions	TOTAL	Leveraged
Trainee Funding	349,500	288,000	637,500	7,491,699
Research Grants	1,242,550	428,000	1,760,555	
2022	MIRA/LCMA investment	Partner contributions	TOTAL	Leveraged
Trainee Funding	438,245	408,785	847,030	3,739,924
Research Grants	1,117,693	261,970	1,397,663	
2021	MIRA/LCMA investment	Partner contributions	TOTAL	Leveraged
Trainee Funding	433,875	226,805	660,680	6,300,000
Research Grants	829,298	91,000	920,298	

Over the past five years, MIRA has worked with partners to invest in aging research and training at McMaster, providing a total of \$3.17 million in trainee support and \$22.14 million in research funding. Partners, including through matched funding, co-funded grants and scholarships, contributed \$1.37 million toward trainee support and \$15.73 million toward research funding. In 2025 alone, MIRA attracted \$14.62M in external funds, which was buoyed in part by industry partnered funding through MIRA’s role in envisAGE.

Between 2021–2025, MIRA- and LCMA-funded projects collectively raised an additional **\$32.8M** from internal and external resources to support aging research at McMaster

Since 2016, Labarge Optimal Aging Initiative, Labarge Centre for Mobility in Aging, MIRA | Dixon Hall and initiatives have collectively raised an additional **\$56.5M**

Collectively, MIRA members have attracted over **\$200M** from federal, provincial and non-profit foundations to support aging research at McMaster University

Research Chairs

McMaster researchers continue to be recognized at home and around the world as leaders in their fields. Close to a quarter of MIRA's full-time faculty members have been awarded research chairs, endowed or industry sponsored chairs, or professorships based on the strength of their research. **MIRA members hold nearly a third of all Canada Research Chairs and endowed chairs at McMaster.** These CRCs cover a range of expertise, representing members' breadth of aging research expertise across all faculties. A few examples include:

- **Tier 1 Canada Research Chairs**

- **Gina Agarwal**, Vulnerable Populations
- **Stuart Phillips**, Skeletal Muscle Health in Aging
- **Heather Sheardown**, Ophthalmic Biomaterials
- **Deb Sloboda**, Early Origins of Health and Disease
- **Alison Williams**, Care Economy, Aging and Policy
- **Rong Zheng**, Mobile Computing

- **Tier 2 Canada Research Chairs**

- **Marla Beauchamp**, Mobility, Aging and Chronic Disease (Tier 2)
- **Dawn Bowdish**, Aging and Immunity until 2024 (Tier 2)
- **Andrew Costa**, Big Data and Aging (Tier 2)
- **Maryam Ghasemaghaei**, EDI Issues in Artificial Intelligence (Tier 2)
- **Jennifer Heisz**, Brain Health and Aging (Tier 2)
- **Satia Imran**, Chronic Cough (Tier 2)
- **Victor Kuperman**, Psycholinguistics, (Tier 2)
- **Jennifer Walker**, Indigenous Health Data and Aging (Tier 2)

- **Members also hold other prestigious research chairs, including:**

- **Paula Gardner**, Asper Chair in Communications
- **Lauren Griffith**, McLaughlin Endowed Professorship in Population Health and Aging
- **Milena Head**, Wayne C. Fox Chair in Business Innovation
- **Benson Honig**, Endowed Chair in Human Resources and Management
- **Aaron Jones**, Schlegel Research Chair in Clinical Epidemiology & Aging
- **Alexandra Papaioannou**, CIHR-Eli Lilly Research Chair and Tier 1 CRC in Geriatric Medicine and Healthy Aging
- **Parminder Raina**, Raymond and Margaret Labarge Chair in Research and Knowledge Application for Optimal Aging and held the CRC in Geroscience (Tier 1) for 14 years until 2024
- **Ravi Selvaganapathy**, Joseph & Amy Ip Chair in Bioinnovation

Awards and recognition for faculty members' contributions

MIRA researchers have also received prestigious recognition for their contributions to aging research. Members appointed for their contributions to research and scholarship as Fellows of the Royal Society of Canada include Parminder Raina, Allison Williams and Stuart Phillips, 2025; Hsien Seow and Michelle Kho, 2024; and Leyla Soleymani and Andrea Gonzalez, 2022.

Other awards received by MIRA members include membership in the Canadian Academy of Health Sciences (Jim Dunn, 2025; Michel Grignon and Allison Williams, 2024; Sharon Kassaleinen and Greg Steinberg, 2023; Maureen Markle Reid, 2021), the Canadian Respiratory Health Professionals (CRHP) Career Distinction Award (Marla Beauchamp, 2024) and YWCA Hamilton Women of Distinction Awards (Dina Brooks, 2025; Ada Tang, 2024; and Laurel Trainor and Dawn Bowdish, 2022). Leyla Soleymani received the Dorothy Killam Fellowship in 2025. In 2022, Parminder Raina was named a Member of the Order of Canada.

At McMaster, MIRA members are recognized as University Scholars (Vladimir Ljubovic, 2025; Tohid Didar and Ada Tang, 2024; Kathryn Grandfield and Jennifer Heisz, 2023) and in 2025, Stuart Phillips was recognized as a Distinguished Professor.

Developing trainees

MIRA-funded trainees have leveraged their training and support to build their aging research careers. Since inception, MIRA has funded 43 postdoctoral fellows, 18 PhD and 15 Master's students. Funded trainees have gone on to lead aging research through:

19
faculty positions
 at McMaster and
 across Canada, the US and
 UK, India and China

21
**other professional
 research roles**
 within the health system,
 private, government and
 academic sectors

21
**have taken their training
 to the next level**
 including medical school,
 PhD and postdoctoral positions
 at universities across Canada
 and the world.



Success Stories



Jessica Breznik (2021 MIRA Postdoctoral Fellow) received the Global Nexus/Pfizer Postdoctoral Fellowship in Vaccinology. Her research, under supervision of Dawn Bowdish, on frailty and COVID-19 vaccine response

informed national immunization guidelines and provincial policy, leading to improved protection for older adults. She is now an **Assistant Professor at the University of Guelph**.



Léa Ravensbergen (2019 MIRA Postdoctoral Fellow), is an **Assistant Professor in the School of Earth, Environment and Society at McMaster**. Her research explores how built environments affect older

adults' mobility. Her academic journey included fellowships at **McGill University** and **Oxford University**, and she continues to mentor MIRA trainees and lead community-engaged research.



Marie-Lee Yous (Trainee Network member), now an **Assistant Professor in the School of Nursing at McMaster**, is a first-generation Canadian whose research is inspired by her clinical experience supporting people living with

dementia. Her work focuses on enhancing quality of life through meaningful activities and caregiver interventions. She has received funding from the **Alzheimer Society of Canada**, **CIHR**, **SSHRC** and the **Canadian Nurses Foundation**, and collaborates with researchers across Canada, the Netherlands and Ireland.



Dongdong Wang (2022 MIRA Interdisciplinary Postdoctoral Fellow) now an **Assistant Professor in the Department of Medicine at McMaster** investigates the mechanisms by which the diabetes drug

metformin influences age-related diseases and weight loss. His groundbreaking research, published in *Nature* in June 2023, identified **GDF15** as a key factor in promoting calorie burning and weight loss during dieting.

Areas of focus



	Mobility & Physical activity	Age-Tech	Pain & Aging
Programs & Initiatives	<p>McMaster University Labarge Centre for Mobility in Aging</p> <p>Labarge Catalyst Grants in Mobility & Aging</p>	<p>EMPOWRd</p> <p>envisAGE</p>	<p>MIRA IPRC Aging and Pain Research Program</p>
Partners	<p>U21 Health Sciences</p>	<p>iMatr</p> <p>CHAH AI</p> <p>Canada ARC-CRC</p> <p>Aging in Place Challenge Program</p>	<p>Michael G. DeGroot INSTITUTE FOR PAIN RESEARCH AND CARE</p>
Cross-cutting infrastructure & Programs	<p>MIRA Dixon Hall Centre</p>		



Aging Brain



Community Engagement



Infection & Immunity



Healthy Aging Across the Lifespan



MIRA | Aging Brain Research Program



Bites & Insights | Aging well, straight from the experts



Mac engAGE

MIRA | FIRH Initiative in Aging and Respiratory Health

MIRA | Biology of Aging Catalyst Grant



Building strategic research priorities

Since 2020, MIRA has made significant progress in advancing the strategic research priorities outlined in its Five Year Plan. These efforts have focused on fostering interdisciplinary collaboration, expanding research capacity and addressing the evolving needs of aging populations.



Building innovative and strategic research priorities — Key developments

New Research Programs and Initiatives:

- MIRA launched two major research programs: PACIFIC (A Post-Acute Care Intervention for Frailty using Information and Communication Technology) and EMPOWrd (Enhancing Mobility and Participation for Older Adult Wellness through Digital Inclusion). These initiatives have strengthened cross-Faculty collaboration and expanded MIRA's research footprint.

MIRA | Dixon Hall Centre

- MIRA has successfully developed and operationalized in partnership with Dixon Hall, this centre integrates community engagement and interdisciplinary research to deliver evidence-based solutions that enhance the physical and social well-being of equity-deserving older adults.

The Aging Brain Research Program

- This program builds on existing research strengths and aims to deepen understanding of how the aging brain regulates bodily functions

Aging and Pain Program of Research

- In collaboration with the Institute for Pain Research and Care (IPRC), MIRA is developing the next thematic areas of research in aging and pain

Supporting and developing research infrastructure at McMaster

- MIRA's Major Programs of Research are supporting and enhancing scientific endeavors of world class research platforms, for examples the wearable technology validated by MacM3 is now used in the Canadian Longitudinal Study on Aging to monitor real time mobility.
- IGeN is charting the complexities of longitudinal studies in multiple generations, charting the way for other cohorts in Canada and worldwide to learn from the challenges in operationalizing intergenerational cohorts.

Voice Canada

- In collaboration with Newcastle University, MIRA introduced Voice Canada, a digital platform and community engagement organization that identifies unmet needs in aging research. By amplifying stakeholder voices, Voice Canada fosters inclusive innovation and transformative research outcomes.

Optimal Aging Portal

- The McMaster Optimal Aging Portal remains a trusted, evidence-based source of information on the health and social dimensions of aging for older adults, caregivers, clinicians and policymakers around the world. The portal has grown its offerings in the last five years, expanding into new formats such as video and e-learning.

Enriching McMaster paradigm of research on aging and research platforms

MIRA has continued to enhance McMaster's aging research infrastructure by expanding existing platforms and launching new initiatives:

Expansion of Major Programs of Research

- The MacM3 and EMBOLDEN programs have been extended to include MIRA | Dixon Hall, while MacM3 and iGeN have been integrated into the Aging Brain Research Program, broadening its scope and impact.

Data Infrastructure Development

- Through partnerships and the MIRA network, MIRA is building robust data pipelines in wearable technologies (CANWEAR) and brain imaging, supporting advanced research and innovation.

envisAGE Partnership

- As a Beachhead partner in envisAGE, MIRA has joined a pan-Canadian research funding initiative focused on implementing and evaluating emerging AgeTech solutions in real-world environments, accelerating their path to market and improving outcomes for older adults and caregivers.

Expanding MIRA's training program

MIRA has significantly broadened its training and educational opportunities for students, trainees and community members:

macPAGE Integration

- Hosting MacPAGE within MIRA has enriched training resources by providing a structured pathway for learners to participate in aging-related experiences beyond the classroom and to share these activities in ways that support academic and career goals.

Summer Program on Aging (SPA)

- In 2021, MIRA delivered a state-of-the-art online international training program during the pandemic, supporting interdisciplinary education in aging.

Community Education

- MIRA continues to share educational opportunities through Voice Canada and the Optimal Aging (OAP), fostering lifelong learning and community engagement.

Expanding strategic priorities

MIRA has broadened its strategic focus through extensive consultation with university stakeholders. These expanded priorities have guided the Institute's research agenda, aligning with its overarching vision and complementing its foundational focus on Mobility in Aging.

Additional strategic priorities developed and implemented over the past five years include:

Intergenerational Aging

- In 2021, MIRA launched its second strategic initiative, iGeN (Intergenerational and Life Course Program of Aging), to explore aging across generations and support interdisciplinary research spanning the full life course.
- MIRA, in partnership with the Gilbrea Centre and support from across the University, launched the successful Mac engAGE program bringing older adults to campus to learn about research at McMaster.

Brain and Aging

- In 2024, MIRA established the Aging Brain Research Program, supported by a transformative \$7.5 million investment from Suzanne Labarge. This program builds on existing research strengths and aims to deepen understanding of how the aging brain interacts with functioning.

Social, Community and Technology Innovation in Aging

- With the creation of MIRA | Dixon Hall in 2021, MIRA has become a leader in integrating community-based care with innovative research. This initiative focuses on developing solutions that serve equity-deserving older adults through collaborative, evidence-based approaches.

Economics, Public Policy and Aging

- In 2025, MIRA began planning the development of Data-to-Decision Hubs. These hubs will connect insights from major research programs and platforms to policymakers and the public. This initiative marks a critical step toward understanding how economic and policy frameworks shape aging societies at all levels of government.

Biology of Aging

- MIRA supports foundational research in the biological processes of aging through its Biology of Aging Catalyst Grants. These grants promote basic science that enhances the understanding of aging mechanisms and contributes to the new emerging science of geroscience.





MIRA Five Years in Review: 2021-2025

Leveraging strengths to drive impact

In MIRA's first five years, the focus was on growth and the groundwork for a vibrant, interdisciplinary research community. Membership expanded to include researchers whose expertise could be applied to aging challenges through interdisciplinary approaches. MIRA established research platforms that became the foundation for successful partnerships and sub-studies, while building relationships within and beyond the University that helped maximize resources and extend MIRA's reach into new communities and disciplines.

Building on this foundation, MIRA's next five years have centered on advancing innovative and strategic research priorities, enriching McMaster's research ecosystem on aging, expanding its training programs and strengthening its overall strategic direction.

2021

2022



- MIRA | Dixon Hall Centre is established
- MIRA hosts the 2021 CIHR Summer Program in Aging (SPA)
- The intergenerational and life course cohort is established
- First Biology of Aging Catalyst Grant launches
- First Interdisciplinary Fellowship Grants launch
- McMaster Optimal Aging Portal launches additional multimedia content project to expand reach through video and social media

- In collaboration with Global Nexus, MIRA hold the 2022 MIRA Knowledge Exchange: Preparing an aging world for emerging infectious threats
- First MIRA MPRs receive funding to expand to Dixon Hall
- MIRA enters a partnership with Newcastle University to develop the Voice Canada platform
- MIRA Launches redesigned intergenerational programming
- 2022 Commonwealth Games stop in Hamilton features MIRA's "Inclusive Spaces for Aging Well"

MIRA | Dixon Hall Centre

voice

CP clinic

Snacks & Science

PACIFIC BRIDGING BRIGHTER FUTURES

EMPOWRd

McMaster OPTIMAL AGING PORTAL



The MIRA team was honoured to receive the McMaster President’s Award for Outstanding Service.

Awarded in a celebration in early May, each team member received a commemorative plaque memorializing their dedication and innovative work, and their group name was added to the university’s permanent Roll of Honour. This recognition celebrated the agility of this small but mighty team, and inspired others within the university community to strive for excellence.

2023

- Dixon Hall begins new initiatives:
 - **Town hall** held to inform the priorities of the MIRA | Dixon Hall Centre
 - MIRA | Dixon Hall Centre launches **Snacks & Science** programming
 - **HCP@clinic** at MIRA | Dixon Hall receives funding
- Two new MPRs start: **PACIFIC** and **EMPOWRD**
- WHO collaboration to inform **Decade of Healthy Ageing**
- **Voice Canada platform launches** at the ‘Shaping the future of Aging’ public event
- Inaugural **Older Adult Open Campus Day** happens at McMaster’s main campus

2024

- **Labarge aging brain research program** launches
- MIRA hosts international experts for **consensus meeting on wearables**
- **Ageing and pain research initiative**, in partnership with IPRC, begins to develop MIRA’s next strategic initiative
- **Vyta partnership** for Optimal Aging Portal (OAP) launches
- **MIRA joins as envisAGE** as a beachhead institution
- First **MIRA | Dixon Hall Knowledge Synthesis grants** launch

2025

- First **Labarge Lecture in Aging** is held
- **BRAID Hub** funding and development starts
- **Embolden** presents first findings at the MIRA | Dixon Hall Centre
- MIRA relaunches a newly designed **MacPAGE**
- **Optimal Aging Portal** plans for future sustainability and re-design





About the MIRA | Dixon Hall Centre

The MIRA | Dixon Hall Centre is a unique partnership, established in 2021, between the McMaster Institute for Research on Aging (MIRA) and Dixon Hall, a multi-service agency focused on addressing poverty, social injustice and isolation across the lifespan, in Toronto's Downtown East. The MIRA | Dixon Hall Center was established through a generous gift from Suzanne Labarge. The Centre's mission is to bring together Dixon Hall's strong community connections and MIRA's interdisciplinary research expertise to create lasting, evidence-based solutions that optimize the physical and social well-being of equity-deserving older adults.



5
Years of Partnership
between MIRA & Dixon Hall
(est. 2021)

By the numbers

550+
study participants
recruited for studies like
MacM3, EMBOLDEN
and **HCP@Clinic**



65+
MIRA researchers
connected with the Centre
through research studies
and presentations



12
Community Advisory Group (CAG) members
co-designing projects and
guiding priorities



850+
Attendees
at public outreach events
such as **Snacks & Science**
and **Town Halls**

MIRA | Dixon Hall Centre

Timeline of Impact

2021

Foundation

- Partnership formally launches between **MIRA** and **Dixon Hall**.

2022

First Steps

- Survey collects data about **COVID-19 experiences** and impact on health and well-being of Dixon Hall community.
- **Nordic Walking Community Event and Research Symposium** brings together researchers, staff and community members.
- **EMBOLDEN** and **MacM3** project planning commences.
- Associate Scientific Director for MIRA | Dixon Hall Centre is hired.

2023

Building Momentum

- Strides for Health pole-walking program begins.
- **MacM3** study launches at Dixon Hall with revised and inclusive protocols.
- **Town Hall** and **Design Thinking event** with over 50 front-line staff generates priority themes.
- **Community Advisory Group** with older adult stakeholders is established.
- First **Snacks & Science** session (“Dementia Friendly Communities”) is held.
- MIRA **International Scientific Advisory Committee** meeting and **Building Communities for Aging Better** public event is held at Dixon Hall.



DIXON HALL
neighbourhood services

2024

Growing Reach

- **EMBOLDEN** study launches in Toronto, starting in St. Lawrence neighbourhood.
- **Ritu Sadana** from the **World Health Organization** visits the Centre, recognizing the Centre's community-research model.
- Two **knowledge synthesis** grants are awarded and launch, on **Digital Literacy** and **Rooming House Initiative** – themes identified at the Town Hall.
- **Tech 4 Life Community Research Fair** highlights work being done related to technology to improve health and lived experiences of older adults.
- Three Snacks & Science events bring the community together to learn about **Social Isolation, Loneliness and Well-being; Movement through Aging; and Promoting Brain Health.**
- Creation of **new strategic plan, mission and vision statement** for the Centre.

2025

Deepening Impact

- **Rooming House Project Town Hall** brings together rooming house residents, staff and researchers to help identify a top 10 list of priorities related to housing that will guide future projects.
- **HCP@clinic** team conducts needs assessment with staff and residents of **Toronto Seniors Community Housing Corporation** to inform program development.
- Development of a **flagship mobility program, "Moving Together,"** begins.
- Inaugural off-site Snacks & Science event is brought to **Oak Street Housing Co-op.**
- Community Advisory Group visits McMaster campus to participate in **Mac EngAGE.**
- Digital Literacy Town Hall brings together **policymakers, industry professionals** and **community leaders.**
- Four Snacks & Science events bring the community together to learn about **Fall Prevention, Women and Stroke, Understanding Swallowing and Understanding Anxiety and Depression.**
- Protocol for **priority setting exercise** with equity-seeking older adults is developed.

MIRA | Dixon Hall
Centre

**EMBOLDEN**
Getting Out for Health

MacM3

Snacks
& Science

CP@clinic

World Health
Organization

Guiding Priorities Generated from Town Hall



Community-led priority setting

More than 50 Dixon Hall staff came together to share their perspectives on the most pressing challenges and opportunities facing the older adults they support – identifying knowledge gaps and proposing community-informed solutions. From more than 250 ideas, eight themes emerged. Following the session, staff were invited to identify the thematic area they felt was most significant for the older adults they serve. The top eight themes were:

- Loneliness, Social Isolation and Emotional Well-being
- Housing and Aging in Place
- Physical and Cognitive Decline
- Financial Well-being, Food Security, and Precarity
- Technology Access and Competency
- System Navigation
- Language and Culture
- Ageism, Vulnerability and Loss of Agency

These themes continue to inform the direction of the MIRA | Dixon Hall Centre initiatives, shaping research and community partnerships that respond to the lived realities of older adults.

Signature Programs, Research and Initiatives



MacM3 – McMaster Monitoring My Mobility

Large wearable-technology cohort tracking the everyday mobility and health trajectories of 1500 older adults over three years. The study includes more than 340 participants from Dixon Hall, including 89 Mandarin-speaking participants.



EMBOLDEN

A co-designed, community-based program that promotes mobility and social participation among older adults living in neighbourhoods experiencing health inequities. Two Toronto-based cohorts, including 88 participants from the St. Lawrence and St. James Town neighbourhoods, took part in a pragmatic randomized controlled trial.

Knowledge Synthesis Projects



Connecting research to knowledge users

The MIRA | Dixon Hall Centre funded two major knowledge synthesis projects on topics identified as priorities during the Town Hall. These initiatives brought together researchers, Dixon Hall staff, older adults and community partners to consolidate existing evidence and chart directions for future action.

These projects have brought together researchers, Dixon Hall staff, older adults and community partners to synthesize existing knowledge and identify priorities and directions for future action. The first project, *Promotion and Sustainability of Digital Literacy Skills for Marginalized Older Adults*, led by Brian Detlor, examined how to promote and sustain technology skills among marginalized older adults, reporting findings back through workshops, a working paper and a large town hall/knowledge sharing event. The second project, Dixon Hall's Rooming House Initiative: Scoping the design and implementation of social housing in Ontario to inform priorities and practice, led by Andrew Costa, engaged residents and staff through interviews, town halls, and a priority-setting exercise to determine key areas for improving supportive housing, with these priorities now informing next steps for research.



HCP@Clinic

A community-services based iteration of Community Paramedicine at Clinic (CP@clinic) program designed to improve older adults' health and quality of life, reduce social isolation, connect with primary care and community resources, and reduce economic burden of avoidable 911 calls. HCP@Clinic is being tailored for a Toronto Seniors Community Housing building, informed by a needs assessment conducted with staff and residents.



Technology Lounge for Older Adults

Weekly digital literacy drop-in sessions offering one-on-one technology support to older adults, helping build confidence and digital inclusion.



Community Advisory Group (CAG)

A 12-member council of older adults that guides program design, evaluation, and research priorities.

Community Outreach and Collaboration – Dixon Hall Snacks & Science

Since January 2024, the MIRA | Dixon Hall Centre has hosted Snacks & Science, a series of free, community-based knowledge-mobilization sessions designed to strengthen understanding of aging and promote health and well-being among older adults. Developed in partnership with McMaster researchers and guided by community priorities, the series has established itself as a trusted platform for dialogue, learning, and connection.



The program's structure, social interaction over refreshments followed by a researcher-led presentation and facilitated discussion, has proven effective in fostering inclusivity and engagement. This format supports both the dissemination of evidence-based information and the co-construction of knowledge, positioning participants as active contributors, and valued members of research.

The program has demonstrated sustained engagement and measurable impact. Seven sessions have been delivered to date, each drawing more than 70 participants. Topics have addressed pressing issues such as social isolation and loneliness; movement through aging; promoting brain health; fall prevention; women and stroke; understanding swallowing; and anxiety and depression in older adults.

Through these sessions, Snacks & Sciences has strengthened community capacity, enhanced knowledge mobilization and fostered meaningful connections between researchers and community members. The series has become a recognized model for bringing academic expertise with lived experience, contributing to healthier aging and stronger community resilience.



“

Got more involved in the community, volunteering, participating in different events. I learn a lot of things regarding aging, health, swallowing, diet, handling food, and meet new friends. I am healthier, active and happy.

”

Attendee, Understanding Swallowing (September 2025)





Looking Ahead

In its next chapter, the MIRA | Dixon Hall Centre will:

- **Integrate broader public input into the Centre's priorities** using a modified James Lind Alliance priority setting exercise to connect with community members through a steering group of knowledge users, focus groups and a survey. This builds on a 2023 townhall priority setting exercise with Dixon Hall staff and continuous engagement with the Community Advisory Group.
- **Continue building on the Centre's collaborative foundation** by expanding partnerships with local organizations and ensuring that research priorities and projects are co-developed with the voices and needs of the community.
- **Deepen engagement** through public events, workshops and accessible research summaries that translate evidence into practical solutions, empowering community members and service providers alike.
- **Advance and scale research projects** that address community-identified priorities, generating evidence-based practices that can be shared and replicated across neighbourhoods.

Building research infrastructure and platforms

MIRA has purposely constructed a broad, interdisciplinary research ecosystem that integrates expertise from all six McMaster Faculties and beyond, positioning itself as a central hub for aging research. Through its major programs, strategic initiatives, knowledge mobilization hubs and strategic partnerships, MIRA integrates expertise from all six McMaster Faculties (health sciences, engineering, social sciences, business, science and humanities) and centers the voice of older adults, caregivers, policymakers and community partners. This model enables MIRA not only to generate novel insights into healthy aging, but also to translate those insights into real-world impact.

At the heart of MIRA's infrastructure are its **four Major Programs of Research**, funded through the Labarge Centre for Mobility in Aging, MIRA's MPRs are intended to address complex challenges in aging through interdisciplinary approaches.



New guidelines for daily steps, global standards for wearables

MacM3

Led by **Marla Beauchamp**, the **MacM3** (McMaster Monitoring My Mobility) study uses wearable sensors and data-driven algorithms to detect subtle mobility changes in older adults. By tracking the real-world mobility of over 1,500 older adults using wearable technology, MacM3 is learning what factors may lead mobility decline and other health changes. Early findings demonstrate the ability of wearable sensor data to predict disability, hospitalisation and ER visits in community-living older people. For example: one-year follow-up results indicate that walking less than 6800 steps a day is associated with four times higher odds of developing disability. This kind of information can be used to provide older people with tangible and simple to follow activity prescriptions for promoting healthy aging.



Launched in 2019, the study has created a valuable data platform and seeks to make the full dataset and processing pipeline available to other researchers who may use the data to address new questions to study mobility and healthy aging. Notably, fellow MIRA researcher Stuart Phillips received nearly \$1M in CIHR funding in 2024 to analyze muscle tissue of a subset of MacM3 participants. By leveraging MacM3's already collected data, this study will have robust measures that would not otherwise be possible, and Phillips' data will help to further contextualize MacM3's findings.

The team has also secured over \$4.4M in grants from CIHR, AGE-WELL and CFI to support other critical sub-studies leveraging MacM3 including a project called SMARTMOVE focused on validating digital mobility outcomes and a project called AIM focused on tracking the impact of respiratory infection on functioning. MacM3's technology has also been incorporated into the population-based Canadian Longitudinal Study on Aging. Importantly, these projects have led to the formation of a major national network, CANWEAR, which is dedicated to improving the quality of wearables-based aging research across the country. CANWEAR will leverage MacM3 and other projects to ultimately provide an open-source data processing pipeline and dataset, backed by a secure platform and review process that will benefit the larger scientific community and enable greater understanding of strategies to promote mobility and healthy aging.

All four programs are deeply embedded in MIRA's broader vision of integrating biological, social, technological and environmental perspectives on aging.



EMBOLDEN

Expanding collaborations with service providers

Mobility decline is associated with negative health outcomes and can reduce older adults' quality of life, but developing interventions that work in the real world is challenging. Led by **Rebecca Ganann**, the EMBOLDEN study (launched in 2019)

co-designed, implemented, and evaluated a three-month integrated care intervention that promoted physical activity and healthy eating, social connection, and system navigation alongside usual care across eight sites in Hamilton and two sites in Toronto. The intervention was delivered through partnerships with public health, primary care, recreation departments, and community organizations in both cities. The research team found that participants receiving the **EMBOLDEN** intervention had higher scores on

measures of time spent being physically active, mobility, health literacy, behavioural intention and social functioning. Intervention group participants also increased the size of their social networks and the frequency of their interactions. Data on physical activity levels were captured using TicWatches, leveraging MacM3's wearable sensor software, while social network data were captured using GENIE software through a collaboration with the University of Southampton, UK and local community information systems. Qualitative findings suggest that EMBOLDEN increased knowledge of healthy foods and community resources, heightened awareness of the importance of physical activity, and met important socialization needs. Next, the EMBOLDEN team is seeking to scale up the intervention and adapt and implement EMBOLDEN within **naturally occurring retirement communities (NORCs)** — an exciting way to bring evidence-based interventions and meet older people where they are at.



PACIFIC

Hospitalization is highly stressful for older adults, especially those who are pre-frail or frail. Led by **Lauren Griffith**, the **PACIFIC** project (Post-Acute Care Intervention for Frailty using ICT), launched in 2023, aims to improve the transition from hospital to home through technology-enabled supports and community-based strategies. The team has completed a systematic review of electronic-Frailty Indices, begun validating its e-FI using Hamilton Health Sciences' Epic data, and is integrating automated data transfer with PHRI and HITS.



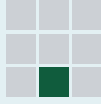
Guided by co-design with older adults and caregivers, PACIFIC seeks to create a coordinated program that reduces frailty and readmissions.



EMPOWRd

Led by **Milena Head**, **EMPOWRd** (Enhancing Mobility and Participation through Digital Inclusion) was launched in 2023 to tackle digital exclusion: by involving older adults in co-design, the team builds inclusive digital tools, training and policies to ensure marginalized seniors can fully participate in a digitally connected society.





iGeN is developing intergenerational data platforms

Strategic Initiatives

Complementing its research programs, MIRA has established three **Strategic Initiatives** that enhance its capacity and reach:



- The **MIRA-iGeN (Intergenerational Study on Aging)** initiative, co-led by **Andrea Gonzalez** and **Parminder Raina**, is building a platform for understanding intergenerational factors and aging across multiple generations, with a cohort of 1,886 families and 4,976 individual participants so far. Early findings from MIRA-iGeN demonstrate how strong intergenerational



connections are associated with better mental health, and that unsupported, complex caregiving can contribute to poorer quality of life.



- The **Juravinski Mobility Project**, led by **MyLinh Duong**, integrates sensor-based mobility monitoring into hospital settings to capture patients' movement trajectories in real time and alert clinicians to risk, avoiding poor outcomes such including mobility loss, longer stays and rehospitalization.



- Most recently, MIRA and the Micheal G. DeGroot Institute for Pain Research and Care (IPRC) have developed and co-funded the **IPALTCare** project team, which seeks to address the pervasive challenge of assessing and treating pain in long term care settings, using AI-enabled prediction models to identify patients whose pain may be missed and cutting edge, non-pharmacological therapies to treat pain and restore mobility. The project will be led by **PI Sharon Kaasalainen** and team, facilitated by the leadership of **Luciana Macedo**, Academic Lead, MIRA-IPRC Aging & Pain Program of Research.



MIRA also leads **BRAID Hub (Brain Health Resources and Integrated Diversity)**, is a knowledge mobilization engine that ensures research findings do not remain confined to academic silos. Co-led by **Parminder Raina**, **Marla Beauchamp**, and **Louise Lafortune** BRAID fosters two-way



exchange between researchers, older adults, caregivers and practitioners to translate rigorous evidence into accessible, equitable resources, training and guidelines.

By integrating equity, diversity and inclusion principles, BRAID plays a critical role in ensuring that brain health and dementia-related research reach and serves diverse communities, aligning with national strategies on dementia care.

Collaborative partnerships



*Partnering to position
McMaster as a leader
in aging research*

MIRA's ambitions are further strengthened by **strategic partnerships** across McMaster and beyond. A particularly vital partner is **Institute for Pain Research and Care (IPRC)**: together, MIRA and the IPRC drive research into the mechanisms, rehabilitation strategies and management of pain in older adults, recognizing that pain is a fundamental dimension of healthy aging. MIRA and IPRC have co-funded five catalyst grants and numerous trainees, exploring a range of topics in aging and pain, spanning pre-habilitation for surgery, pain biomarkers, pain measurement and assessment, and novel treatment such as repeated transcranial magnetic stimulation (rTMS). Buoyed by this breadth of capacity and interest, MIRA and IPRC coordinated a series of meetings to develop a co-funded strategic initiative focusing on aging and pain – which ultimately became **IPALTCare** (more details below).

MIRA partners with the **McMaster Digital Transformation Research Centre (MDTRC)** to advance digital inclusion research for older adults. MDTRC's neurophysiological tools, mobile UX labs and behavioural research infrastructure complement MIRA's strengths and the two units have co-funded several trainees. Through programs like EMPOWRD, MIRA uses MDTRC's Mobile User Experience Lab to study real-time technology use and usability challenges. Joint outreach further supports inclusive, age-friendly design grounded in rigorous, real-world evaluation.



*Accelerating AgeTech
through industry
partnership*

MIRA's ability to evaluate the potential for AgeTech solutions is enhanced by partnership with **envisAGE**, a national initiative supported by MEDTEQ+ and AGE-WELL, within which MIRA designated a **Beachhead**. In this capacity, MIRA provides evaluation and methodological expertise to assess new technologies in real-world environments. Collaborative projects are funded through envisAGE to enable MIRA researchers to evaluate AgeTech solutions developed by small and medium sized enterprises (SMEs), within real world settings. MIRA researchers are participating in three envisAGE funded projects, evaluating solutions from: **iMatr**, which focuses on co-designing democratic technology tools that help older adults express their preferences and feedback in decision-making systems; **VanTech Med**, which tests intelligent companion dolls in long-term care to reduce isolation, improve quality of life and support caregiver well-being; and **CHAH**, an AI-enabled video monitoring and predictions platform serving homecare clients. Across these initiatives, MIRA's is helping transform innovative ideas into technologies that meaningfully support independence and quality of life for older adults.

Collectively, MIRA's layered infrastructure – its major research programs, strategic initiatives, the BRAID hub and its broad partnerships – forms a powerful, integrated platform for interdisciplinary aging research. Rather than operating as isolated projects, MIRA's work is purposefully scaffolded: sensor-driven detection (MacM3) feeds into mobility trials (EMBOLDEN), digital equity interventions (EMPOWRD) and post-acute care (PACIFIC); strategic initiatives help drive implementation in clinical (Juravinski) and social (iGeN, IPALTCare) settings; and knowledge is translated and co-created via the BRAID Hub. Through partnerships, MIRA embeds aging research in global health innovation, ensuring that the institute is not only advancing aging science, but shaping how societies prepare older populations for emerging health threats.



*Building aging
research
infrastructure*

In summary, MIRA is building more than just a research institute: it is creating an **ecosystem** of programs, hubs and alliances, that is interdisciplinary, translational, inclusive and future-facing. By centering older adults, engaging communities, integrating technology and aligning with pandemic-preparedness innovation, MIRA is uniquely positioned to lead on the pressing challenges of healthy aging today and to scale its impact into a future where aging and global health risks are deeply entwined.

) affects ~50% of those 65+
ements per year in Canada
ving...



Research Impact

Driven by collaborative teams and bold ideas, MIRA-backed projects are advancing new tools, technologies and evidence that support healthier aging. Many impacts have been established from the close to one hundred research projects and over 140 trainee projects.

Over the past five years many of these initiatives are strengthening clinical decision-making, enhancing community programs, informing national policy conversations and expanding the ways researchers, clinicians, industry and older adults work together to create transformative impact.

Following illustrates a select number of projects and how they have had a transformative impact

CLSA Named CIHR Impact Story of the Year



CLSA supported a broad response to COVID

In 2023, **The Canadian Longitudinal Study on Aging (CLSA)**, led by **Parminder Raina**, was selected as CIHR's Impact Story of the Year for its critical contribution to COVID-19 research affecting older adults funded by MIRA and PHAC. By leveraging robust longitudinal data alongside pandemic-specific questionnaires, the CLSA enabled researchers to quickly

examine the impacts of COVID-19 on mental health, mobility, caregiving, vaccination, social isolation and alcohol use. Findings informed public understanding through national and international media coverage and supported government decision-making, demonstrating the CLSA's significant and timely impact during the pandemic.



Writing of age: Addressing social isolation through creative writing



Findings are contributing to policy and public programs

Social isolation and loneliness are recognized determinants of well-being, yet remain difficult to identify and quantify in clinical and community settings. Supported by a **Labarge Catalyst** and **COVID-19 Grants**, **Victor Kuperman**, working with MIRA members **James Gillett** and **Ranil Sonnadara** developed an interdisciplinary research program examining

the role of creative writing in social connectedness in later life. The **CoSoWell (Cognitive and Social Well-being)** project recruited over 2,000 people aged 55-84 across

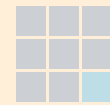
North America, who contributed written narratives over several years. Kuperman's linguistic analyses revealed patterns of loneliness, connection, resilience and well-being that fluctuated with the Covid-19 pandemic lockdowns. In June 2021, Kuperman presented findings to the **House of Commons**, contributing

to federal discussions on digital inclusion and social isolation. With support from the **Future of Canada Project**, the program also established intergenerational writing initiatives in Canada and the United States and the launch of a publicly available, robust dataset accessible to other researchers.



CLSA data describes impact of Covid-19 on mobility

MIRA researchers, led by Marla



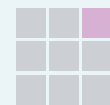
Global media engagement

Beauchamp, leveraged a **Labarge COVID-19 Grant** and **CLSA data** during the Covid-19 pandemic and found that older adults receiving a COVID-19 diagnosis were significantly more likely to experience worse mobility and functioning outcomes even in the absence of hospitalization. These findings were reported by the New York Times and supported the idea that interventions may be needed for individuals with



mild to moderate COVID-19 to maintain mobility.

ABLE Village



ABLE is available to and in use by the public

Kick-started by a **2017 Labarge Catalyst Grant**, **Paula Gardner** and her team developed ABLE, a virtual community built to provide social, artistic and recreational activities for


older adults to enhance social connectivity. Activities include movement games, a jukebox for sing-alongs, a sonic paint project and other recreational and cognitive wellness activities. The team was able to expand across Canada creating ABLE Village with significant funding from SSHRC. At both Dixon Hall and MIRA



partner organization Thrive Group, staff and diverse participants have said that they appreciate the great accessibility – both in terms of technological access and different ways to interact with the games – of the ABLE platform and tools and that they are eager to use them to enhance their social activities in daily life with friends and family both near and far.

Advancing mobility assessment in orthopaedic care




Project is contributing to clinical decision making

Osteoarthritis affects many older adults and often limits mobility and daily functioning. While total joint replacement can improve quality of life, outcomes vary, making it difficult to determine who will benefit most. A **2019 Catalyst Grant** led by **Janie Wilson** helped launch a collaborative team from McMaster and St. Joseph's Healthcare Hamilton who aimed to combine motion-capture cameras in orthopaedic clinics with at-home sensors to assess mobility in real time and ultimately guide personalized care and reduce unnecessary surgeries. The current project, led by **Dylan Kobsar, Anthony Adili, Kim Madden** and **Rong Zheng**, which is supported by a **2022 Labarge Catalyst Grant**, has been incorporated into the daily practice in the St Josephs orthopedic clinic, helping strengthen decision-making by capturing objective, high-resolution mobility data.

Enhancing acoustic accessibility in performance venues



Project is accelerating hearing technology

Hearing loss later in life is associated with increased social isolation and an elevated risk of cognitive decline. Although hearing aids can mitigate some of these challenges, many older adults report limited benefits and as a result, inconsistent use. Supported by **co-funding from MIRA, AGE-WELL** and the **Canadian Frailty Network**, McMaster researchers **Ian Bruce** and **Laurel Trainor** are investigating ways to improve the experience of using advanced assistive listening technologies in live music concert venues. In collaboration with **McMaster's LiveLab**, the **Hamilton Philharmonic Orchestra**, **FirstOntario Concert Hall** and the hearing aid manufacturer **Sonova**,



this research is contributing to new technologies and guidelines. Bruce has also disseminated this research through engagements with community audiences, including MIRA's **Bites & Insights** series at the **Hamilton Public Library** and an engaging presentation with live musical demonstration to a sold-out audience at McMaster's LIVElab.

Infection, immunity and cognitive aging

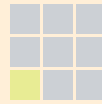

Project is informing provincial vaccine policy, public understand of vaccine science

Respiratory infections such as influenza, pneumonia and COVID-19 are associated with inflammation that is poorly understood as we age and may be associated accelerated cognitive decline and elevated dementia risk. With support from a **2022 MIRA | Global Nexus Catalyst Grant in the Biology of Aging**, as well as trainee support from MIRA, **Dawn Bowdish** and MIRA colleagues including **Andrew**



Costa, Paul McNicholas and **Arthur Sweetman** are advancing research to better understand the impact of infection related inflammation in older people and to inform policy and the public. Their research on SARS-CoV-2 vaccine response in older adults. Conducted directly informed Ontario's recommended COVID-19 vaccination regimen for long-term care residents, saving many lives. MIRA funded preliminary findings helped secure a \$750,000 CIHR grant to further understand the immunological mechanisms through which infection and inflammation influence neurocognitive aging.

Evidence generated across these studies is being mobilized through **MIRA's Bites & Insights** series at **Hamilton Public Libraries** and other locations in community. These sessions share practical strategies to support cognitive resilience, including vaccinations for older adults. In 2025, Bowdish received the Research Canada Leadership in Advocacy Award for these contributions to research and policy.



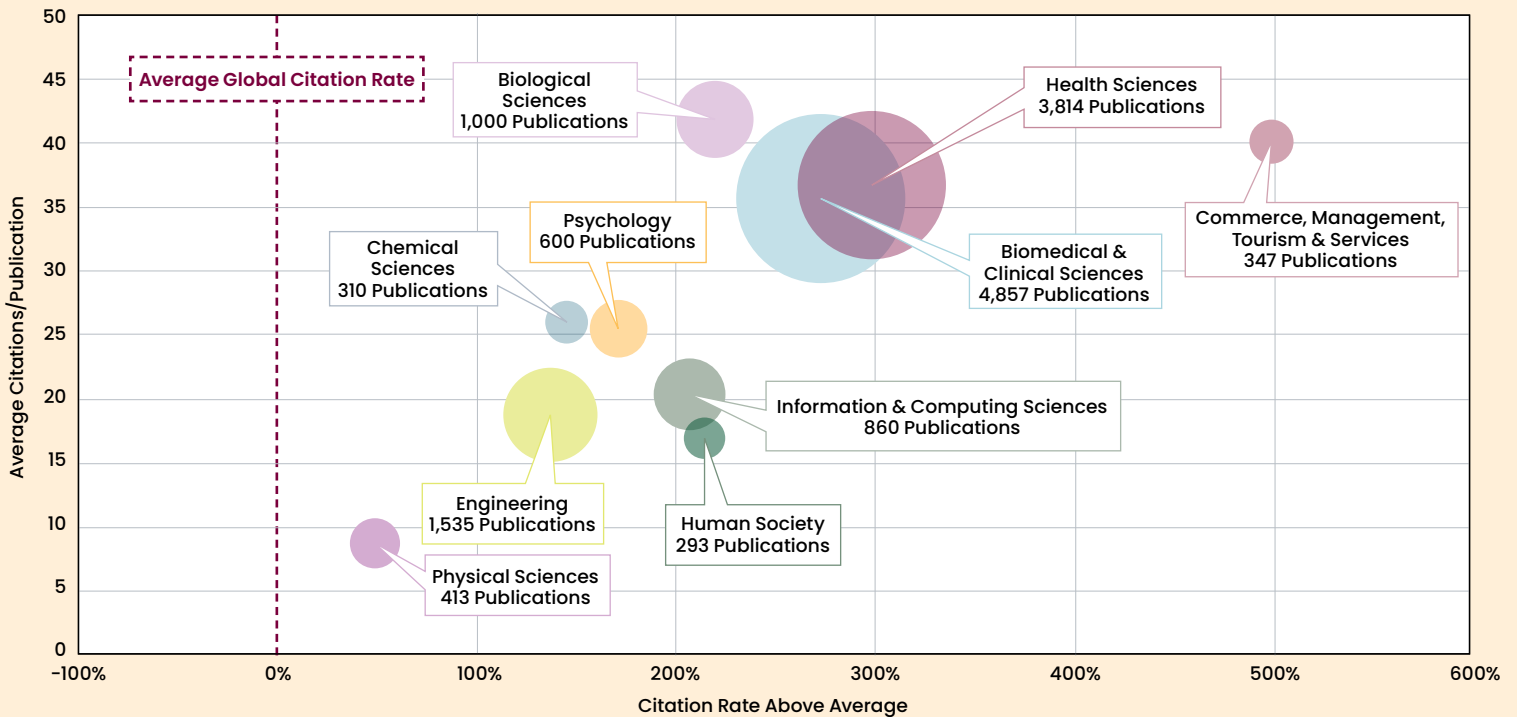
MIRA is exceeding global citation averages

MIRA researchers' overall publication impact

From 2021–2025, MIRA-affiliated faculty published 4,275 peer-reviewed papers in aging research, as MIRA researchers exceed global citation averages across all fields. In Health Sciences, Biomedical Sciences and Clinical Sciences, the area with the highest research volume, citation rates are nearly 300% above global averages. In smaller but highly influential fields such as Commerce, Management, Tourism and Services, citation rates reach 500% above global averages – reflecting the breadth, depth and interdisciplinary impact of aging-focused research across McMaster.

Citation Impact – MIRA Researchers

Source: Dimensions Analytics



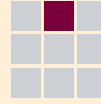
MIRA experts share research with the public through major media outlets



MIRA research and experts in the media

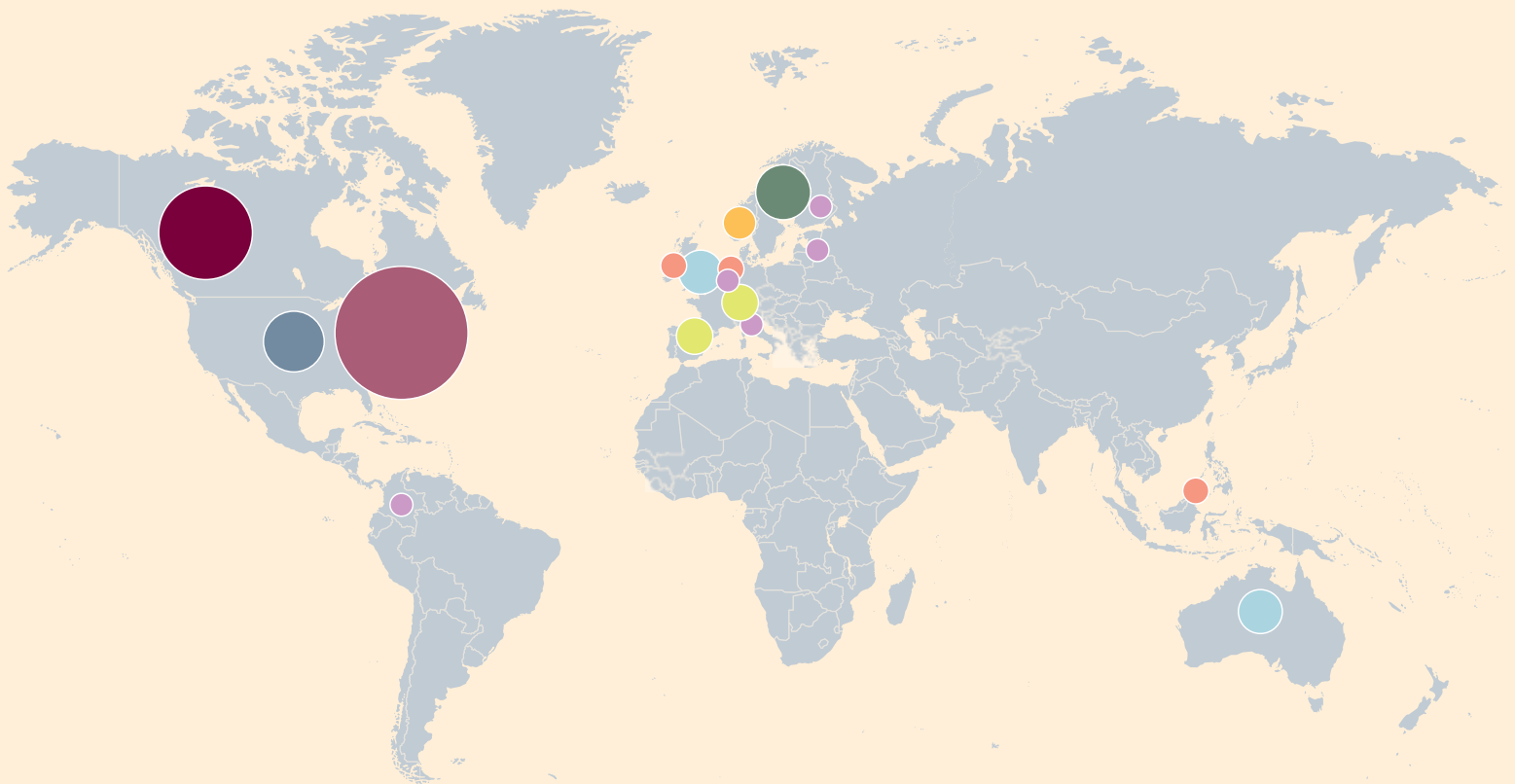
Members of the McMaster Institute for Research on Aging are frequently sought out by major Canadian and international media as trusted experts on the latest aging research and what it means to age well. In the last five years, members have been featured in The Guardian, BBC, Washington Post, Globe and Mail, CBC and many other outlets. Marla Beauchamp was featured in The New York Times in 2022 for a story about the impact of COVID-19 on older adult mobility and physical activity.

Country	Number
IGO	23
Canada	14
USA	8
Sweden	7
Australia	5
UK	5
Spain	4
Switzerland	4
Norway	3
Ireland	2
Malaysia	2
Netherlands	2
Belgium	1
Italy	1
Colombia	1
Latvia	1
Finland	1



MIRA contributes to global policy & clinical guidelines

MIRA- and Labarge-funded research has had far-reaching influence, informing policy and clinical guidelines across 16 countries and contributing to 23 intergovernmental organizations (IGO) guidelines (see image below).





Training & Capacity Building

Training & Capacity Building

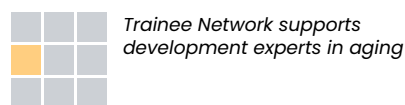
MIRA’s approach to training and capacity building centres on developing a diverse, interdisciplinary community of emerging researchers dedicated to improving the health and well-being of Canadians age they age. Through the MIRA Trainee Network, we support undergraduate, graduate and postdoctoral trainees from all six McMaster Faculties, fostering collaboration across disciplines and sectors.

Programming is designed to build research capacity and professional skills through mentor initiatives, interdisciplinary workshops, knowledge mobilization training, events that include academic poster sessions, community-facing aging research fairs, #MIRATraineeTalks, Meet Your Supervisor (an event that fosters experiential learning and volunteer opportunities for undergraduate students) and the annual Pitch Your Project competition.

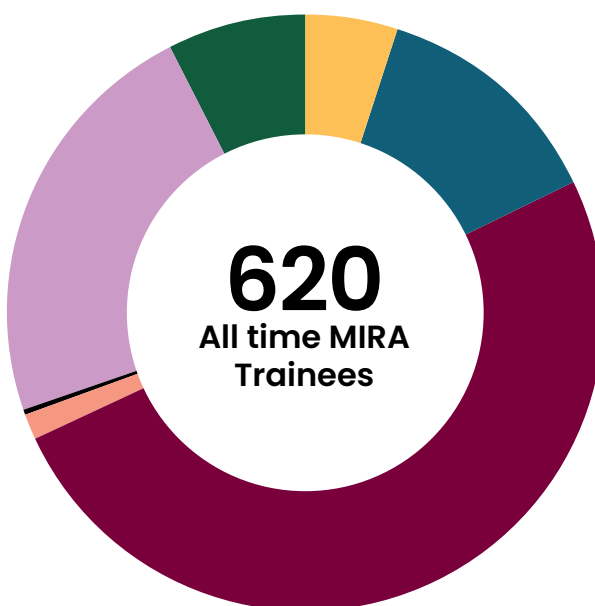
MIRA provides a supportive and dynamic environment for trainees to grow as leaders in aging research. Regular meetings create a collaborative space to discuss research challenges, gain interdisciplinary perspectives and explore diverse career pathways in aging-related fields. In addition to internal funding opportunities, MIRA highlights external funding and employment resources and delivers targeted skill-building in areas such as public speaking, poster design and grant writing. By fostering a connected and enthusiastic community, MIRA empowers trainees to become innovative contributors to aging research across academia, healthcare and industry.

MIRA Trainee Network Impact

The MIRA Trainee Network has made a significant contribution to aging research capacity at McMaster. Since its launch in 2017 with 45 graduate students and postdoctoral fellows, the Network has grown to include undergraduate students and currently supports 178 members in the 2025–2026 academic year. To date, 620 individual trainees have participated in the Network, which operates on an annual opt-in model.



■ Business	31
■ Engineering	80
■ Health Sciences	312
■ Humanities	9
■ McMaster Divinity College	1
■ Sciences	141
■ Social Science	46



MIRA fosters an enriched training environment that supports excellence in graduate and postdoctoral research on aging and positions researchers for success in grants that require strong training components. Eight former trainees have become McMaster faculty members and active MIRA researchers, while other MIRA- and Labarge-supported trainees now hold appointments at universities across Canada and internationally, reflecting the Network’s lasting contribution to research capacity and leadership in aging.



Community Engagement & Knowledge Translation

The Optimal Aging Portal

Supported by the vision of Suzanne Labarge, the **McMaster Optimal Aging Portal (OAP)** continues to serve as a trusted, evidence-based resource on the health and social aspects of aging for older adults, caregivers, clinicians and policymakers worldwide.

In 2025, the Portal expanded its reach with new multimedia offerings, including video posts, e-learning lessons and email-based micro-learning series. Nearly 70,000 subscribers now receive weekly alerts, with an additional 61,000 engaged in micro-learning content. Partnerships with the McMaster Alumni Association delivered three health and wellness webinars to more than 5,500 participants.

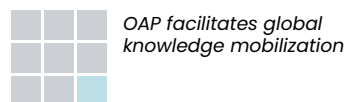
Strategic collaborations continue to enhance impact. Support from the **Public Health Agency of Canada** and private donors enabled national promotion of dementia risk-reduction content, while ongoing AGE-WELL funding advanced accessibility through a customizable user-experience widget based on individual needs. In 2024, a content-licensing collaboration was launched with **Vyta**, powered by **Bayshore HealthCare**, expanding access to nearly 1,000 evidence-based resources to support informed, evidence-based decision-making among older adults and their families.

In 2025, collaborations with **Choosing Wisely Canada**, the **Heart and Stroke Foundation** and **Canada’s Drug Agency** brought additional evidence-based resources into new e-learning modules and video posts.

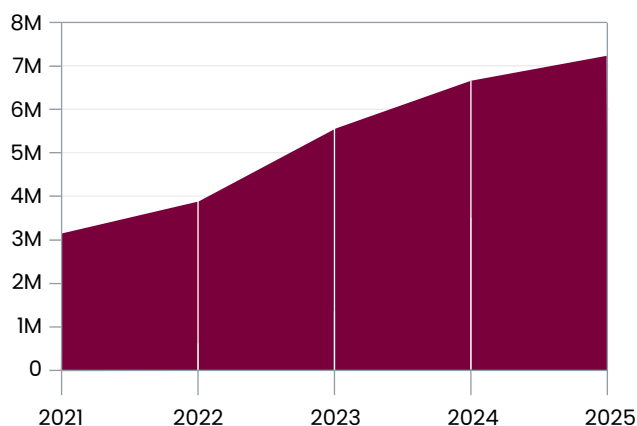
To strengthen engagement among francophone audiences, the Portal renewed its partnership with **Réseau Québécois de recherche sur le vieillissement** (Quebec Network for Research on Aging) to support content translation and expanded its reach through a new collaboration with **Réseau Résilience Aîné.es Montréal** and the **Direction régionale de santé publique de Montréal**, extending to member organizations such as **FADOQ** – the largest organization representing older adults in Canada, with more than 600,000 members.

Portal engagement (2025)

Since its launch, the Portal has been accessed by 7,114,722 users (as of October 31, 2025). Usage has grown consistently each year, reflecting sustained interest in accessible, evidence-informed information on aging.

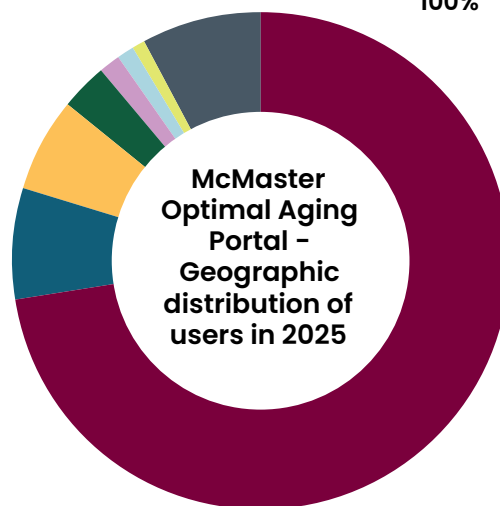


Total number of all-time McMaster Optimal Aging Portal users over past 5 years

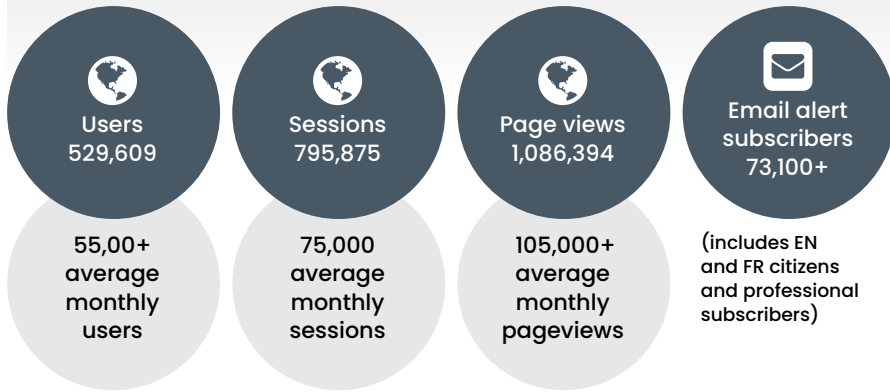


Number of users who have initiated at least one Portal session during calendar year 2025

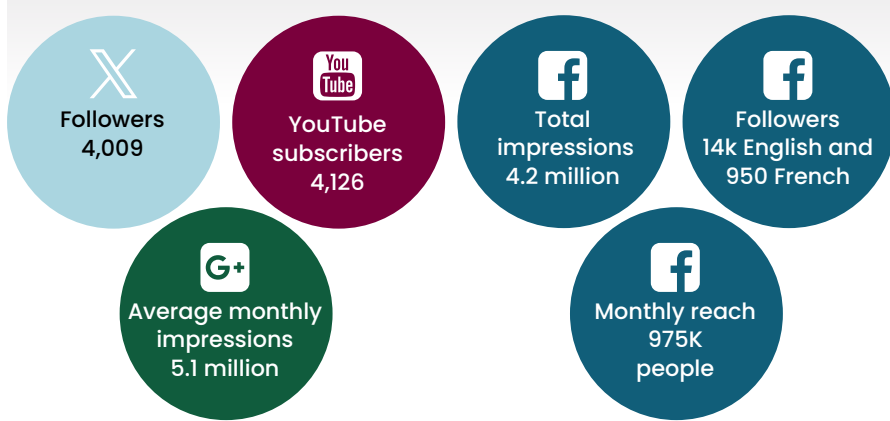
Canada (English & French)	73%	532,878
United States	7%	53,141
France	6%	46,355
Francophones - other countries	3%	21,172
United Kingdom	1%	9,759
India	1%	7,910
Australia	1%	6,796
Other countries combined (English Portal)	8%	56,437
Total	100%	734,448



Other user stats for year 2025 (as of 31 October 2025)



Social media 2025

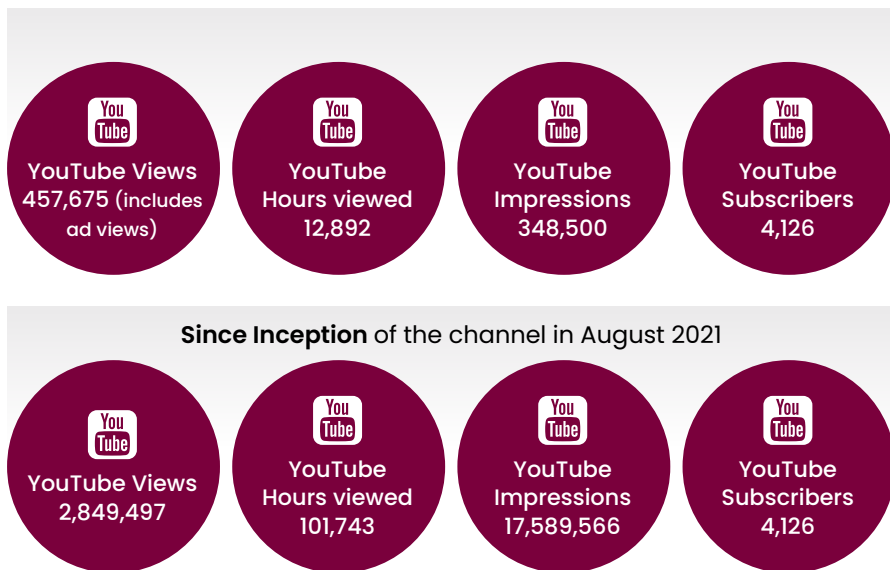


Portal content as of 31 October 2025

- **537+** Blog posts
- **467+** Hitting the headlines news summaries
- **1,135+** Evidence summaries
- **16** E-learning modules*
- **70** Video posts*
- **58,401+** Scientific articles for health and social system professionals provided via direct feeds McMaster’s best-in-class sources of best available (filtered and appraised) research evidence related to optimal aging, namely McMaster Premium Literature Service (McMaster PLUS) for clinical questions, Health Evidence for public health questions, Health Systems Evidence for health systems questions and Social Systems Evidence for social systems questions.

*** Multimedia content**

In 2025, the Portal expanded multimedia offerings with two new e-learning modules and 13 video posts featuring McMaster experts. More than 19,000 subscribers joined the email-based micro-learning series, bringing total subscriptions to 61,000. Engagement with these formats remain strong, reflected in positive survey feedback and high use of online quizzes and downloadable resources.



Portal content		HEALTH	SOCIAL
CITIZEN CONTENT	Blog posts	355	182
	Evidence summaries	949	186
	Hitting the headlines	412	
	E-learning	16 modules, 70 video blogs	
PROFESSIONAL CONTENT	Clinician	51,096	n/a
	Public health professional	3,931	n/a
	Policymaker	3,056	318



Sustainability

Through ongoing collaborations, the Portal continues to strengthen its foundation for long-term sustainability. The team works closely with MIRA leadership and McMaster's University Advancement Office to identify potential sponsors and funding opportunities. Collaboration with DELI, HIRU, Health Evidence, the McMaster Health Forum and MIRA provides essential in-kind support and access to evidence resources for professional audiences.

Looking ahead, the Portal is focused on securing stable, long-term funding and pursuing innovations that enhance accessibility and reach. Priorities include exploring the use of artificial intelligence (AI) to improve personalization and usability, guided by a systematic needs assessment and an evidence-informed approach to design and testing.

Community outreach and collaboration

Co-creation and co-design are central to MIRA's research approach, ensuring that research outcomes are relevant, accessible and meaningful to the communities they serve. As part of MIRA's mission to make research applicable and responsive to community needs, the team hosts a public events that bring research directly to the community. This has included:



Community Events



Bites & Insights series

A community talk series led by MIRA researchers, sharing practical, evidence-based insights to support healthy and engaged aging in the Hamilton area.

Bites & Insights | Aging well, straight from the experts

Voice Canada launch

In 2023, MIRA launched Voice Canada, an online platform that enables community members to participate in research studies, learn about upcoming research events and contribute to research at every stage. Presented in Canada by MIRA, the platform was developed by the National Innovation Centre for Ageing (NICA) at Newcastle University and reflects an important international partnership and ongoing investment in a connected community of research participants and partners.

MIRA | Dixon Hall Snacks & Science series

Free, community-based knowledge mobilization sessions held in Toronto's downtown east. These sessions are designed to strengthen understanding of aging and promote health and well-being among older adults. Led by McMaster researchers, each session focuses on a specific-related topic identified through community feedback and priorities.



Sage Conversations series

A campus-based discussion series connection community members with McMaster researchers to explore aging-related topics through open dialogue. The series fosters two-way learning and strengthens connections between researcher and the broader community.

Sage Conversations



During COVID-19 lockdowns, MIRA adapted its programming by launching online intergenerational sessions that connected undergraduate students with older adults to help reduce social isolation and strengthen intergenerational connections. More than 50 participants took part in these virtual sessions, demonstrating a measurable impact on connection, belonging and well-being.

Public Events



Inclusive Spaces for Aging Well

Built into the global programming surrounding the Commonwealth Games and the journey of its baton to Birmingham for the 2022 Games, MIRA's hosted this dynamic event featuring eight-minute TED-style presentations from speakers at McMaster, the University of Birmingham and the broader community. Speakers addressed topics ranging from the built environment, enabling exercise and physical activity, and socio-cultural elements that enable people to age well in the community. The event included research and community fair highlighting innovative aging-related work across McMaster and Hamilton and kicked off a collaborative and productive relationship between MIRA and the University of Birmingham.

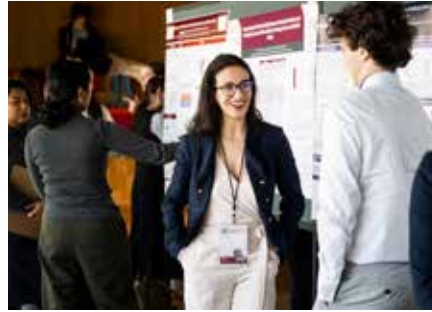
Inaugural Suzanne Labarge Lecture in Aging

An annual lecture established in honour of Chancellor Emerita and McMaster alumna Suzanne Labarge, recognizing her vision and commitment to advancing aging research. The lecture aims to connect notable aging researchers from around the world with McMaster's innovative circle of engaged researchers, clinicians and members of the community, addressing the complex challenges and needs of aging through presentations and networking, aiming to mobilize existing knowledge while encouraging the development of new strategies and solutions.



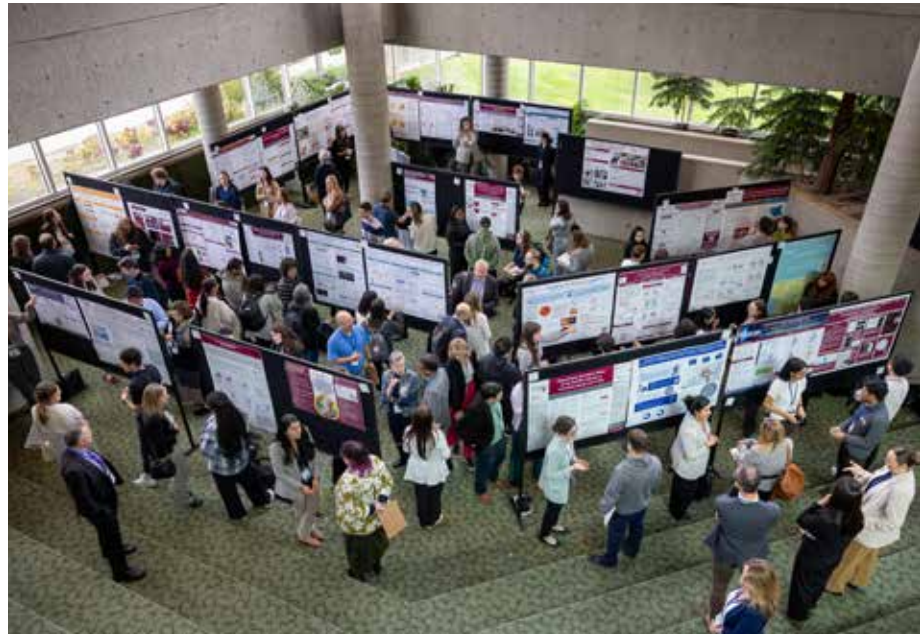
Mac engage

In partnership with the Gilbrea Centre for Studies in Aging and with the support of the Okanagan Office, Office of Community Engagement and other partners across McMaster, MIRA launched the successful Mac engage program in 2023, bringing older adults to campus for exploration, learning and connection. Guided by students and researchers, participants engage with aging-related research and technology, explored campus spaces and take part in intergenerational dialogue. The yearly event has been an important piece in McMaster's commitment to being an age-friendly university.



MIRA & Labarge Knowledge Exchange

MIRA’s signature annual event, highlights the year’s most impactful aging research and unveils emerging directions across MIRA and the Labarge research community. The event brings together researchers, trainees, partners and community members for a day of shared learning, collaboration and forward-looking discussion – strengthening connections that drive innovation in aging research.



These events supported consultations with older adults to ensure that the information shared reflected community interests and priorities. They received overwhelmingly positive feedback, with smaller sessions reaching their 40- to 60-person capacity and larger events drawing between 150 and 250 attendees.

To foster a culture of research engagement among older adults, MIRA hosted three annual campus open houses in partnership with the Gilbreath Centre for Studies in Aging. Mac engAGE welcomed more than 120 attendees, offering opportunities to tour campus facilities, attend research presentations and connect with student volunteers. This event celebrates the essential contributions of older adults to McMaster’s research community and was recognized as part of MIRA’s President’s Award for Outstanding Service.



MIRA collaborates for community-driven research through VOICE Canada

MIRA’s leadership in co-creation extends beyond McMaster. In 2023, MIRA partnered with Voice UK, an international engagement platform that enables older adults and caregivers to share their experiences directly with researchers, to launch Voice Canada. Voice Canada now connects more than 350 users with McMaster researchers,

creating an efficient and inclusive way to involve community members in shaping research and innovation.

Following a successful launch, MIRA is now expanding Voice Canada nationally through collaborations with universities and aging research organizations. In October 2025, McMaster signed a Memorandum of Understanding (MOU) with AGE-WELL to integrate the platform into its researcher and citizen network, with additional university partners joining later in the year. This initiative is positioning Voice Canada as a national platform for community-driven research, broadening opportunities for older adults to engage in knowledge mobilization and ensuring that research across Canada reflects the experiences and perspectives of its diverse population.



Partnerships & Collaborations

Advancing MIRA's vision through strategic partnerships

A bold and transformative vision is taking shape for MIRA: to position McMaster University as the global epicenter for evidence-based insights into healthy aging, mobility and brain health. This vision is anchored in the development and application of ethically designed, person-centered technologies that support aging populations.

Achieving this vision hinges on cultivating strong, purposeful partnerships. MIRA's partnership strategy is guided by three core goals:

1. **Establish strategic collaborations** at the local, national and international levels
2. **Develop new** research centres and initiatives that attract leading partners and funding opportunities
3. **Strengthen and expand** research platforms focused on aging, mobility and brain health



MIRA Collaborates and bringing solutions into practice

Over the past five years, MIRA has built a dynamic network of collaborators who contribute to its research, education and community initiatives. These partnerships are closely aligned with MIRA's core objectives — enhancing institutional capacity, optimizing resources and expanding the reach and impact of aging-related research.

To date, MIRA has established more than 80 strategic partnerships and informal collaborations across McMaster University and with partners across Canada and internationally. These relationships have yielded significant outcomes, including:

- Leveraged funding opportunities
- Expansion of research platforms and programs
- Creation of innovative educational offerings
- Advancement of interdisciplinary learning

Notably, MIRA's collaborations with Dixon Hall, the World Health Organization (WHO) and expert teams in wearable technologies and imaging have enabled outreach to under-represented and underserve older adults and have brought MIRA's expertise to international attention.

These efforts have not only enhanced MIRA's global relevance but have also positioned McMaster as a leading authority in aging technology and research platforms. MIRA strength in building connections and through its role in the envisAGE BeachHead, MIRA is making strides to bring AgeTech to community labs and supporting advancing impact to support older adults.

This report highlights a selection of these impactful collaborations, illustrating the breadth and diversity of MIRA's engagement. Together, these partnerships are advancing MIRA's mission — fostering scientific exchange and building institutional capacity.



The International Wearables Consensus

In November 2024, MIRA hosted an international consensus meeting on wearables for measuring mobility in aging populations. This two-day meeting brought together international scholars to develop standards to guide the use of wearable technology in research of aging populations and to produce an international consensus statement covering critical metrics for evaluating late-life mobility with wearables and optimal methods for data collection and analysis of mobility data in older populations.

Led by **Marla Beauchamp**, the initiative has significant implications for measuring mobility, a critical component of healthy aging, across global research and public health platforms. Wearable devices, such as fitness trackers and smartwatches, have the potential to revolutionize our understanding of the aging process by providing valuable insights into older adults' health and well-being through movement data — accurate, real-time movement measurement in aging populations can significantly help manage mobility as a “6th vital sign.”

As wearable technologies evolve rapidly, establishing shared international standards has become essential. The insights and connections

gained from this meeting will play a crucial role in shaping the next generation of wearable technologies and their applications in aging populations. The meeting created a vital forum for expert exchange and collaboration, resulting in an internationally applicable consensus document *“Establishing global standards on wearable technology for measuring mobility in aging populations: an international consensus exercise”* (Age & Ageing; Beauchamp et al., in press) that will help ensure mobility research is reliable, comparable and responsive to the needs of diverse populations.

MIRA led this initiative alongside colleagues at the University of Birmingham, including **Afroditi Stathi**, Professor of Physical Activity and Community Health in the School of Sport, Exercise and Rehabilitation Sciences. The initiative furthered the collaborative relationship between McMaster and U of Birmingham and has helped to establish MIRA as a leader in this space. For example, Beauchamp recently presented the consensus results as part of a World Health Organization initiative to provide technical guidance for the use of wearables for population health surveillance.



Setting global standards and developing pipelines



Expanding impact through partnerships and collaboration



MIRA is accelerating AgeTech through partnerships

MIRA joins national AgeTech effort as envisAGE Beachhead

In 2025, the McMaster Institute for Research on Aging (MIRA) was named a Beachhead with envisAGE, a pan-Canadian initiative focused on advancing quality aging through technological innovation. The Beachhead program, supported by AGE-WELL and MEDTEQ+, invites research entities to share their expertise in measuring and evaluating new technologies with small and medium-sized enterprises (SMEs) selected for funding as part of collaborative projects and to assess the effectiveness of SMEs' technologies in Community Labs – real-world settings that support older adults and caregivers, including long-term care facilities, retirement communities and homes. This partnership positions MIRA's researchers at the leading edge of AgeTech, enabling real-time evaluation of emerging solutions with industry partners and providing access to funding earmarked for this purpose.

"MIRA is pleased to join envisAGE as a Beachhead™, as it will provide further opportunities for our researchers to connect with small and medium-sized enterprises and Community Labs, and conduct stakeholder engaged research that is a core part of our vision for improving the lives of older adults. We are excited to see what we can do together to enable older adults to live longer, healthier and more independent lives."

— **Parminder Raina, Scientific Director, McMaster Institute for Research on Aging (MIRA)**



MIRA is contributing to international guidelines

MIRA works with World Health Organization

In alignment with the World Health Organization's Decade of Healthy Ageing, MIRA is working with the WHO to help improve the global understanding of mobility in older people and to reconceptualize mobility measurements in member states. In 2023 MIRA researchers **Parminder Raina, Ayse Kuspinar and Marla Beauchamp** worked with collaborators at the World Health Organization (WHO) to develop guidelines for measuring mobility in older adults, ultimately publishing *A unified framework for the measurement of mobility in older persons* (Beauchamp et al, 2023). MIRA continues to collaborate work with WHO and expand impact to global settings; in 2024, WHO Head of Aging and Health Unit, Ritu Sadana, visited McMaster and the MIRA | Dixon Hall Centre, meeting with researchers and leadership to explore opportunities.





MIRA leverages BIRMAC seed fund to launch collaboration with University of Birmingham

MIRA is fostering international collaboration and knowledge mobilization

In 2022, McMaster University and the **University of Birmingham (UofB)** established the **BIRMAC Project and Ideas Fund**, a new seed fund to support collaborative research projects between both institutions. MIRA embraced the BIRMAC initiative fostering connections between the two institutions by collaborating on events such as Inclusive Spaces for Aging Well, an interdisciplinary talk held in Hamilton in May 2022 and A Tale of Two Cities: Exploring parallel research and initiatives into age-friendly cities, communities, and universities. The latter involved a delegation of MIRA researchers and staff visiting Birmingham in June 2023, followed by a reciprocal visit to Hamilton by Birmingham researchers in October 2023. These exchanges provided both institutions with an opportunity to examine active aging in urban settings, particularly mid-sized, post-industrial cities facing demographic, economic and environmental challenges.



UNIVERSITY OF BIRMINGHAM

Synergies between complementary programs of research (MIRA’s EMBOLDEN and MacM3 programs and Birmingham’s REACT trial) supported further cross-institutional grant applications and large-scale, international collaboration. In November 2024, MIRA co-hosted an **international consensus meeting on wearables for measuring mobility in aging populations** with UofB.



McMaster hosts U21 on meeting on aging



International academic leadership in aging and design thinking

In August 2025, McMaster University hosted the U21 Health Sciences Group Annual Meeting, welcoming health sciences leaders, researchers and learners from 20 universities across 13 countries to explore the theme Aging Across the Lifespan. MIRA’s support in hosting this conference included its opening plenary on mobility in aging, which featured lightning talks highlighting MIRA’s major programs of research, and a design thinking “sprint” that engaged over 200 attendees in applying MIRA’s signature approach to aging research. MIRA also led the conference doctoral student forum, teaching a master class on design, aging and health, and a workshop that taught trainees from across the world how to apply design principles to aging research challenges. MIRA’s role in the U21 Conference sparked international collaboration for MIRA, notably with Pontificia Universidad Católica de Chile.



AGE-WELL joins MIRA as a strategic partner to advance Voice Canada's national and global reach

In 2025, MIRA embarked on a new collaboration with long-time partners **AGE-WELL**, marking the next step in elevating **Voice Canada**. Voice, originally developed by Newcastle University, is an international community engagement platform that enables older adults and caregivers to contribute their experiences and ideas directly to research and innovation. MIRA brought Voice to Canada in 2023 adapting the model to reflect the Canadian research landscape. AGE-WELL is a federally funded technology and aging network that brings together multiple stakeholders to accelerate the delivery of tech-based solutions making meaningful differences in the lives of older Canadians and caregivers.

Through this new collaboration, AGE-WELL will be a strategic partner and becomes the first organization in Canada to adopt the platform under license, expanding Voice Canada's reach and creating new opportunities for older adults to participate in research and provide valuable feedback. MIRA's partnership with AGE-WELL reinforces both parties' leadership in advancing community-engaged research and positions Voice Canada as a model for inclusive innovation, one that amplifies the perspectives of older adults and contributes to Canada's global leadership in aging and health.



Community partnerships for knowledge mobilization & exchange

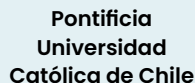
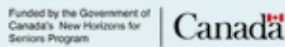
Since 2017, MIRA has partnered with community organizations across Hamilton to strengthen connections between research and the community.

In 2024, the *Bites & Insights* series, hosted across Hamilton Public Library branches from Dundas to Stoney Creek, engaged community members in discussions on how McMaster could enhance its connection with older adults through presentations, open dialogue and design-thinking activities. The series has since evolved to focus on practical, evidence-based strategies that support healthy, engaged living and is now expanding to additional sites, including Shalom Village, a long-term care home in Hamilton's west end.



Partnering for Real World Impact

MIRA has developed a wide network of collaborators and partners who support our research, deepen our impact and widen our reach. These valued partnerships enhance the work of the Institute and further our common goals. We were proud to work with the following partners in 2025.





MIRA's Vision 2025-2030

Vision 2025–2030

MIRA’s leadership team is defining MIRA’s strategic directions for the next ten years with input from across the university. MIRA’s vision is built on consultations with MIRA’s members, MIRA’s governance committees and McMaster’s leadership team. A series of six townhall meetings (one session for each faculty at McMaster) plus a general membership meeting were held in 2023 to review and update MIRA’s strategic priorities and future directions. MIRA’s International Scientific Advisory Committee and Executive Committee have built on this input to outline the institute’s next steps.

MIRA’s future vision leverages the capacity and infrastructure that was developed and built at MIRA and its centres through the Major Programs of Research and strategic initiatives and will be aligned with the emerging scientific and technological trends in aging research. The outline is described below.

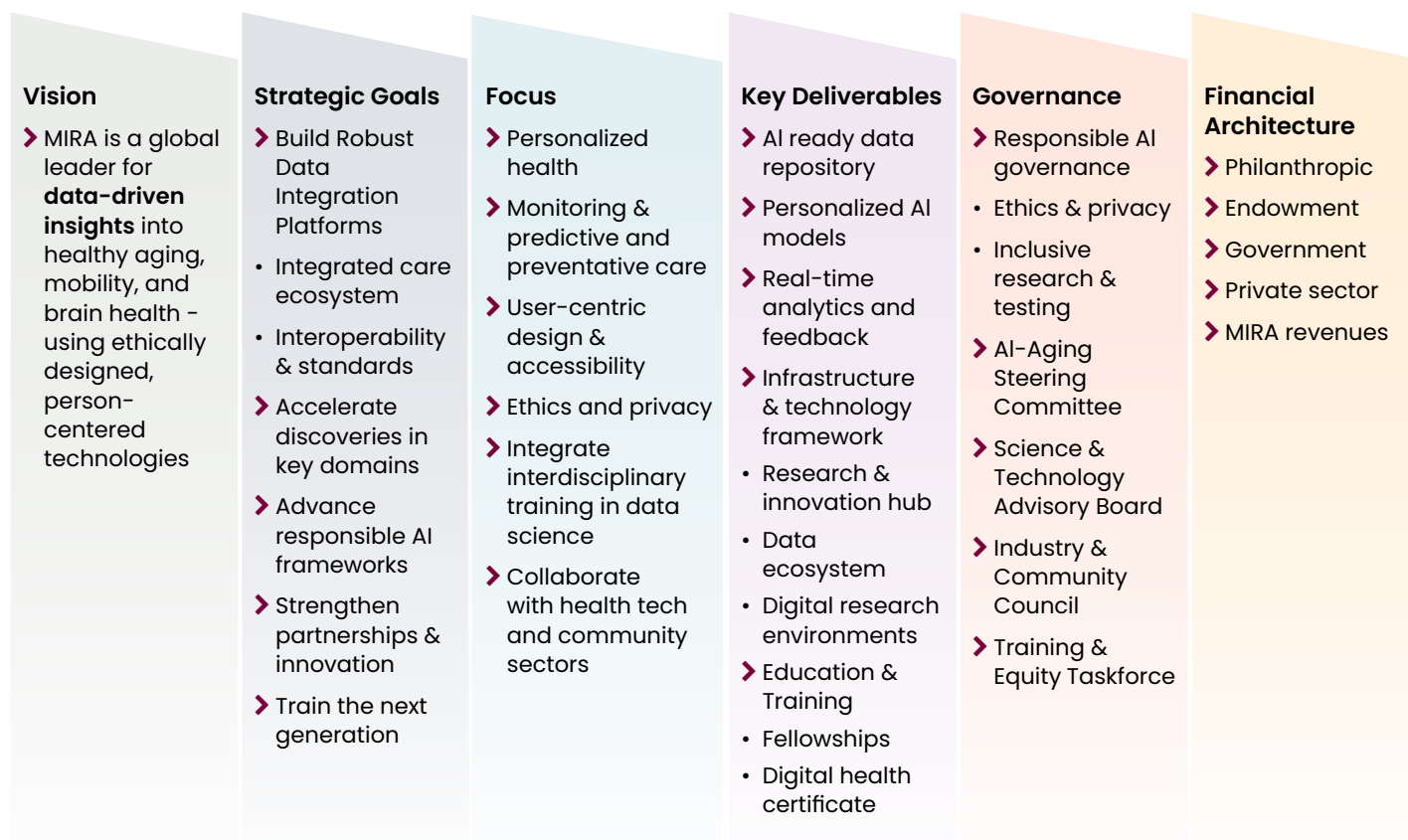
Vision 2025–2035

MIRA is a global leader for data-driven insights into healthy aging, mobility and brain health – using ethically designed, person-centered technologies

Mission

To combine cutting edge solutions with personalized insights to proactively monitor health, prevent decline, and enhance quality of life for diverse aging populations.

The key steps and processes for MIRA’s strategic directions are outlined in the diagram below



The Key Domains and application areas for MIRA's strategic directions are envisioned as follows



Social & Behavioural analytics

- Natural language processing (NLP) for loneliness and social engagement detection
- AI-driven tools for caregivers



Mobility & Physical Function

- Machine learning algorithms for gait analysis, fall prediction and rehabilitation
- Integration of wearable and other sensor data for community mobility insights



Brain Health

- Early detection of cognitive decline using imaging, speech, vision and wearable data
- Personalized interventions for cognitive resilience



Population-Level Predictive Modeling

- Link to administrative data for system-level forecasting of aging needs
- Support federal and provincial policy planning for aging populations



Digital Twin for Aging Populations

- Create virtual replicas of individuals to simulate aging trajectories
- Model mobility and disability progression and preventive strategies

Succession Planning

MIRA has developed a strategy for succession planning that includes

- A timeline and process for succession of MIRA’s Scientific Director
- An established proposal for recruitment mechanisms for the Director roles for MIRA’s Centers
- An established plan for fostering the development of the next generation of MIRA’s academic and organizational leaders – to ensure there is a steady pipeline of investigators who can step into leadership roles at MIRA
- An academic reward pathway advocating for MIRA leaders’ responsibilities and research outputs to be “accounted for” as part of the academics’ institutional duties and for MIRA leaders’ roles that are “borrowed” in terms of time commitment and compensation

The phenotype of the future leader of MIRA requires specific skills that balances academic excellence and strategic leadership skills such as building relationships with academic, non-profits, governments, public and private partnership, research administration and university leadership. MIRA has a process in place working with the office of the vice president of research for recruitment of MIRA and its centers’ leadership.

MIRA has intentionally developed a robust leadership pipeline to ensure the long-term sustainability and impact of the Institute and its Centres. As part of this strategy, MIRA has already appointed a Director for the MIRA–Dixon Hall Centre, with the Director serving as a full member of MIRA’s senior leadership team. The director of MIRA–Dixon Hall actively contributes to institute-wide strategy, governance and decision-making.

In parallel, MIRA has systematically identified additional members with the leadership competencies and attributes outlined above and is actively mentoring them through structured leadership development, governance exposure, and progressive responsibility. These individuals represent a strong cohort of future leaders across MIRA and its affiliated Centres.

This succession planning framework is embedded within MIRA’s governance model and is designed to ensure continuity, institutional memory, and a seamless transition in leadership, safeguarding the Institute’s vision, momentum, and excellence over time.

MIRA has worked closely with university leadership to establish a transparent and sustainable compensation model that recognizes the time commitment and responsibilities of MIRA leaders, including formal mechanisms to support teaching relief where appropriate. This model ensures that leadership roles within MIRA are adequately resourced and aligned with institutional policies, enabling leaders to contribute meaningfully to the Institute’s strategic priorities.

In parallel, MIRA is committed to responsible research evaluation and will formally sign the Declaration on Research Assessment (DORA). This commitment reinforces MIRA’s support for inclusive and equitable approaches to recognizing research impact, valuing a broad range of scholarly contributions beyond traditional metrics and aligning assessment practices with international best standards.

Sustainability

MIRA has secured additional funds to supplement the foundational Labarge funds through the MIRA | Dixon Hall Centre and the Aging Brain Program of Research as well as additional funds obtained through grants such as BRAID. To align with these funds, the University commitments to MIRA are in place until 2029. MIRA is currently working with university leadership to ask for an increased annual commitment from the OVPR and the Provost to align with the increasing costs of university research and to match the impressive growth and success of MIRA. MIRA leadership has been working with University Advancement to position MIRA for future donor investments. MIRA has also developed a strategic plan for the next ten years and through partnerships, collaborations and plans to establish an aging innovation centre within MIRA, the institute is well positioned as an international leader in aging research and to support its sustainability for the next 5 years and beyond.

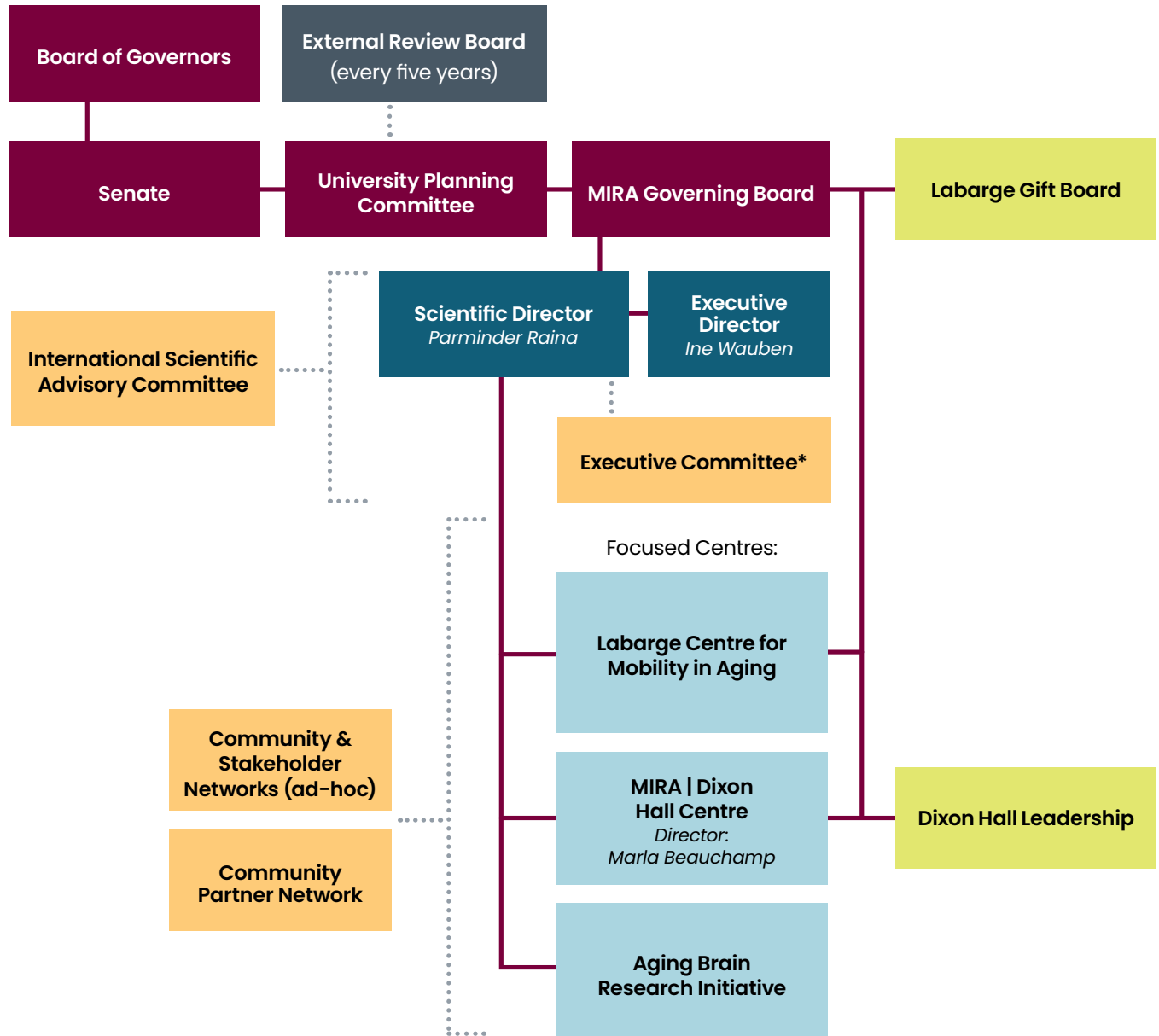


Organizational Structure

MIRA is supported by its governance and management structures illustrated below. As MIRA has been tremendously successful and therefore has managed its growth through reorganization of its management structure, teams, and governance.

MIRA Governance

MIRA updates its governance membership in a rolling fashion every three years and has introduced diversity in stakeholders, representing a wider range of communities such as vulnerable populations. In order to support the many initiatives within MIRA and its centres, the community and stakeholder networks and working groups are called upon on an as needed basis.



* The Scientific (CO-) Directors of MIRA and the Focused Centres have a seat on the Executive Committee.



Members of the International Scientific Advisory Committee (ISAC)

- **David Hogan**, Professor Emeritus, University of Calgary, Chair
- **Agneta Malmgren Fänge**, Associate Professor, Lund University
- **Wendy Rogers**, Professor, University of Illinois
- **Luis Miguel F. Gutierrez Robledo**, Director, National Institute of Geriatrics
- **Jonathan Bean**, Professor, Harvard Medical School
- **Clemens Becker**, Professor, Heidelberg University

Members of the Executive Committee

- **Parminder Raina**, MIRA (Chair)
- **Ine Wauben**, MIRA (Vice-chair)
- **Marla Beauchamp**, MIRA
- **Bonny Ibhawoh**, Vice Provost, International Affairs
- **Michael Surette**, Professor, Medicine (FHS)
- **Milena Head**, Professor, Information Systems (BUS)
- **Carmela Alfaro-Laganse**, Associate Professor, School of the Arts (HUM)
- **Michel Grignon**, Professor, Economics (SoSci)
- **Ali Emadi**, Professor, Electrical and Computer Engineering (ENG)
- **Jennifer Heisz**, Associate Professor, Kinesiology (SCI)
- **Alfonso Iorio**, Professor, Health Research Methods, Evidence, and Impact (FHS)
- **Ada Tang**, Associate Professor, School of Rehabilitation Sciences (FHS)
- **Mina Mawani**, CEO, Dixon Hall
- **Sachi O'Hoski**, Scientific Operations Manager, MIRA | Dixon Hall Centre

Members of the MIRA Governing Board

- **Gianni Parise**, Vice President, Research
- **Maureen MacDonald**, Provost and Vice President (Academic)
- **Dina Brooks**, Associate Vice President and Executive Vice Dean, Faculty of Health Sciences
- **Paul O'Byrne**, Dean, Faculty of Health Sciences
- **Bruce Newbold**, Dean, Faculty of Science (acting)
- **Heather Sheardown**, Dean, Faculty of Engineering
- **Jeremiah Hurley**, Dean, Faculty of Social Sciences

Management Senior Leadership

- **Parminder Raina**, Scientific Director
- **Marla Beauchamp**, Director, MIRA | Dixon Hall Centre
- **Ine Wauben**, Executive Director

Current MIRA Team

- **Alison Outtrim**, Program Coordinator
- **Allison Dubé**, Project Manager
- **Audrey Patocs**, Research Manager
- **Casey Irvin**, Communications Coordinator
- **Gésine Alders**, Research Coordinator II
- **Jacqueline Pham**, Communications Assistant
- **Lauren Evans**, Administrative Assistant
- **Sachi O'Hoski**, Scientific Operations Manager, MIRA | Dixon Hall
- **Tajwar Arna**, Research Assistant, MIRA | Dixon Hall Centre

MIRA | Dixon Hall Team

- **Marla Beauchamp**, Director
- **Mina Mawani**, CEO
- **Christine Chow**, Director
- **Sachi O'Hoski**, Scientific Operations Manager
- **Cindy Tse**, Manager
- **Nadia Jamil**, Research & Community Lead
- **Tajwar Arnab**, Research Assistant
- **Brian Zheng**, Research Assistant



Appendices

A: Funding summaries (internal/external)

A.1: This table summarizes the research projects supported by LCMA and MIRA

	2016–2020	2021	2022	2023	2024	2025	Total 2021–2025	Overall Total
Catalyst Grants (LCMA)		7	7	1	6	0	21	
Biology of Aging Catalyst Grants (MIRA)	22	1	1	1	2	1	16	
		8	8	2	8	1	27	49
Strategic initiatives	1			1		1	2	3
Major Programs of Research (LCMA/MIRA)	2	0	0	0	2	0	2	4
Matching funds for research projects (LCMA/MIRA)	4	1	1	2	2	1	7	11
Projects using the CLSA research platform (MIRA)	11	1	3	3	1	0	8	19
Dixon Hall projects			1	2	2		5	5

**Planning grants were discontinued in 2021, prior to 2021, 12 planning grants were supported

A.2: Trainee funding

	2016–2020	2021	2022	2023	2024	2025	Total 2021–2025	Overall Total
MSc (MIRA/LMA)	6	1	2	0	0	2	5	11
PhD (MIRA/LCMA)	4	3	2	2	1	3	10	14
PDF (MIRA/LCMA/Aging Brain)	13	6	5	4	4	3	21	34
USRF (MIRA)	25	10	6	6	6	6	34	59
Co-funded trainees (MIRA/LCMA)	8	2	5	5	4	1	17	25
Graduate Student Professional Development Awards (GSPDA)	23	17	13	9	6	9	54	77
Total first five years	79						total 2021–2025 141	220





McMaster Innovation Park, Suite 109A | 175 Longwood Road South | Hamilton, ON L8P 0A1 | mira.mcmaster.ca



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