



Strategic Research Plan 2021-26

Saint Mary's University's Strategic Research Plan 2021-26

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Introduction

The 2021 Strategic Research Plan (SRP) for Saint Mary's University represents the renewal of this institutional over-arching guiding research strategy document, which was first envisioned in 1999, and last updated prior to this renewal in 2012. The renewal of this SRP was done in parallel to, and in conjunction with, renewal of the university Academic Plan. Consultations for the SRP and Academic Plan began in late 2018, and after both Plans experienced delays, final approval by Saint Mary's Senate was given in December 2020 for the Academic Plan; highlights of this 2021-26 SRP were broadly communicated to the university community starting in February 2021 – and first steps of implementation taken – with the final approval for this Strategic Research Plan being confirmed in **March 2022**.

The Saint Mary's SRP not only fulfills the requirements of certain funding programs for the Government of Canada (e.g., the Canada Research Chairs Program), but also articulates the University's overall research mission and objectives, and outlines actions designed to support them. The SRP does not stand alone in this role, but stands both within the context of other internal institutional guiding Plans – notably, the overall Saint Mary's University Strategic Plan 2017-2022 (<https://president.smu.ca/2017-2022-plan>), the afore-mentioned Academic Plan, the Strategic Plans of individual Faculties, and the SMU Canada Research Chair EDI Action Plan (<https://www.smu.ca/webfiles/SMU-CRC-Action-Plan-June2020.pdf>) – and within the context of other external factors/agencies exerting influence on research directions – such as Research Nova Scotia regionally, and the United Nations Sustainable Development Goals internationally.

Within this environment of competing demands and priorities, this renewed Strategic Research Plan provides a framework for supporting Saint Mary's University researchers in ways to reinforce the internal university priorities, provide guidance for future resource investments to support research success broadly, and enhance the public research profile and reputation of Saint Mary's University.

Research Mission

In concert with the Vision, Mission, and Core Values of the University, the **Research Mission** of Saint Mary's University is:

To engage in research that applies to, and is valued by communities from around the corner, to around the world, and that cultivates intellectual curiosity and creativity of our faculty and students.

Research Objectives

It is important to re-iterate the following statement contained in the previous 2012 version of this SRP: *"While Saint Mary's SRP identifies Major Research Themes, it is not an exclusionary document."* Indeed, the Major Themes are intended to be as inclusive as possible across a broad spectrum of scholarly activity, and provide mechanisms to encourage faculty involvement across disciplines. However, in alignment with our Academic Plan, the SRP allows for flexibility to react and adapt to any significant new opportunities or directions which may present themselves – with some of the specific Actions outlined in the SRP potentially leading to discovery of such new opportunities, and the planned follow-up consultations discussed in the SRP also providing a vehicle to uncover emerging directions.

This Strategic Research Plan is thus meant to provide a framework that supports the following tetrad of **objectives**, even with the recognition that these objectives are not always in a fully aligned equilibrium:

- to promote institutional priorities, and domains of particular research strength, through the identification of Major Research Themes;
- to support the research work of as many Saint Mary's University faculty members as possible across the broad spectrum of scholarly pursuits, with attention to the barriers to success that equity-deserving groups may face;
- to ensure that students, both undergraduate and graduate, benefit from research activities at the University; and,
- to encourage the building of collaborative networks of researchers that promote development both of new initiatives and ideas in support of the Major Research Themes, and of entirely new directions in whichever area they may arise.

Assessing Progress

The Associate Vice President Research (AVPR) is responsible in assessing the University's progress in meeting the objectives set out in the SRP. To assist in this assessment, the AVPR will utilize a Research Advisory Board whose formation has been recommended in the current Saint Mary's University Academic Plan, and is reinforced in *Actions* presented within this SRP. Assessment of various research objectives related to the SRP will be undertaken on at least an annual basis and communicated to the University community through reports to bodies such as Faculty Councils, Senate and the Board of Governors, as well as the University's website. Before a renewal of this SRP is engaged in, the same faculty consultation to gauge community Research Experience as was done prior to this SRP (and is referred to herein) will be conducted to assess any changes in reported Experience.

Research at Saint Mary's University – History and Funding

Founded in 1802, Saint Mary's University has evolved into a modern metropolitan university and now stands as the second-largest university in Nova Scotia with approximately 7,500 full- and part-time students. Although primarily an undergraduate university before the year 2000, it now offers 29 graduate programs (including 5 PhD programs) across all three Faculties in various areas of strength in the Social Sciences and Humanities, Business, and Natural Sciences and Engineering. Research activity has increased significantly in recent years and continues to grow at a rapid pace; externally sponsored research funding, for example, has more than quadrupled over the last 15 years. Saint Mary's has also advanced in Canadian Research University of the Year ranking, by Research InfoSource Inc., from not even being listed in the top 50 in 2002 to consistently placing within the top 50 since then.

Funding for research at Saint Mary's comes from many sources. A significant portion of Saint Mary's operating budget is dedicated to meeting the direct costs (e.g., equipment, travel expenses, research student funding, etc.) and the indirect costs (e.g., administration, library holdings, laboratory and research facilities upkeep, etc.) of our research activities. Externally sponsored research comes from many sources, including the Government of Canada's funding program and agencies (e.g., ACOA, CIHR, SSHRC, NSERC, CFI, CRC), provincial departments and agencies (including the recently created Research Nova Scotia). In 2005, Saint Mary's operationalized its industry liaison office, which now bears a name reflecting its broad mandate: the Office of Innovation and Community Engagement (OICE). OICE is a component of Springboard Atlantic, a not-for-profit corporation with 19 Universities and Community Colleges members from across Atlantic Canada. Springboard's mission is to mobilize innovation to enhance the economic development of the region. OICE has made new funding opportunities available to our researchers by making

connections with industry and other private and public sector organizations. OICE also helps transfer new discoveries and knowledge from our research activities to receptor communities external to Saint Mary's.

Canada Research Chairs Program

The Canada Research Chairs (CRC) program now has an over 20-year history of being positioned at the centre of Canada's national strategy of supporting research and innovation. An allotment of Chairs is assigned by the CRC Secretariat to universities in Canada, with the allotted number and their Tri-Agency alignments (SSHRC, NSERC, CIHR) determined by a formula largely based upon each university's proportion of total funding from specific programs within each of the Tri-Agencies. Reassessments of the allotment numbers are conducted every few years and can result in any of status quo, increases, or decreases for each university. Saint Mary's University had benefit from increased allotments during the first 15 years of the program, but the last two reassessments (conducted in 2017 and 2020) have resulted in reductions. While our Tri-Agency funding profile suggests potential for recovering allocation at the next assessment, the current status of CRCs at Saint Mary's is given in the Table below.

The assignment of CRCs within Saint Mary's University is the responsibility of the Vice-President Academic & Research (VPAR), and alignment with one of the SRP Major Research Themes has been – and remains – a key element is the determining the disciplinary focus when replacing a vacant Chair. With this 2021 renewal of the SRP, not only is there a shift in the definition of the Major Research Themes compared to the earlier 2012 SRP, but there is also a newly defined process for guiding the VPAR's decision regarding filling vacant Chair; this new process is outlined in the Canada Research Chair Equity, Diversity and Inclusion (EDI) Action Plan (<https://www.smu.ca/webfiles/SMU-CRC-Action-Plan-June2020.pdf>), and takes advantage of the flexibility of Tri-Agency association provided by SMU's assignment of "special" Chairs and the allowance of Flex Chairs by the Secretariat. The new process allows a call for SMU departments/programs/groups-of-faculty to propose a Chair in a discipline that not only aligns with the SRP Major Research Themes but also support the university's EDI goals within the CRC program, and within the academy as a whole. This process will remain informed by university's development of a Diversity Strategy, and ensure consultation with the recently created role of Associate Vice-President, Diversity Excellence. The Table of current CRCs below provides the connection for each Chair to the Major Research Theme under which they were appointed (under the 2012 SRP) and their alignment with the Themes herein the 2021 SRP.

Consultation Overview – Research Experiences of Faculty at Saint Mary's University

Input that informs this SRP was obtained from the Saint Mary's University faculty and broader research community through a variety of forums held in the 2-3 year period prior to the SRP launch – from workshops and townhalls related specifically to the SRP, to the Academic Plan, and to generating ideas to set the University Advancement priorities; in addition to these, a specific initiative was undertaken to gauge the Research Experience of faculty over a 3-4 month period in early 2019. This “strategic research discussion” consultation process was undertaken with the assistance of Cognitive Edge Pte LTD utilizing their SenseMaker® research tool (<https://cognitive-edge.com/sensemaker/>). With a specific goal of informing the identified objectives for the SRP, faculty were invited to share their research experiences at SMU by participating in an online collection of micro-narratives designed to illicit specific experiences related to the research agenda at SMU. Additional background on how this consultation was implemented is provided on the SRP Renewal website: <https://www.smu.ca/academics/fgsr-strategic-research-plan-renewal.html>.

Table of Current Canada Research (CRC) status (as of February 2022)

note: Chairs normally complete 2 terms before becoming vacant-for-filling

Chair Level	Utilization by Agency	Research Field - 2012: SRP Major Theme - 2021: SRP Major Theme	Status
Tier II	SSHRC	International Development Studies <ul style="list-style-type: none"> • 2012: International Development & Human Migration • 2021: Modern Global Citizenship Issues – Migration, Development, Big Data 	2 nd term (2017-22)
Tier I	SSHRC	Occupational Health Psychology <ul style="list-style-type: none"> • 2012: Innovation in Business & Workplace Studies • 2021: Innovation in Business & Workplace Studies 	2 nd term (2015-22)*
Tier I	NSERC	Astrophysics <ul style="list-style-type: none"> • 2012: Astronomy, Computational Sciences, & Subatomic Physics • 2021: Innovative Science – Exploring Fundamentals, Developing Applications 	1 st term (2017-23)*
Tier II	SSHRC	Atlantic Canada Studies <ul style="list-style-type: none"> • 2012: Atlantic Canada Communities 	2 nd term (2021-25)

		<ul style="list-style-type: none"> • 2021: Connecting to Communities – Engaging, Partnering, Supporting Atlantic Canada communities 	
Tier II	NSERC	Sustainable Chemistry and Materials <ul style="list-style-type: none"> • 2012: Environment and Natural Resources • 2021: Innovative Science – Exploring Fundamentals, Developing Applications 	2 nd term (2021-26)
Tier II	NSERC	Organic Geochemistry and Marine Research <ul style="list-style-type: none"> • 2012: Environment and Natural Resources • 2021: Innovative Science – Exploring Fundamentals, Developing Applications 	2 nd term (2021-26)
Tier II	SSHRC	International Finance and Competitiveness <ul style="list-style-type: none"> • 2012: Innovation in Business & Workplace Studies • 2021: Innovation in Business & Workplace Studies 	1 st term (2017-22)
Tier II	NSERC	Astrophysics <ul style="list-style-type: none"> • 2012: Astronomy, Computational Sciences, & Subatomic Physics • 2021: Innovative Science – Exploring Fundamentals, Developing Applications 	1 st term (2017-22)

* Chair lost in 2020 reallocation exercise, and will not be renewed/replaced.

These experiences shared through the *strategic research discussion* were captured as visual data in a series of SenseMaker® “triads”. The analysis of this data included collaborative visualization techniques common to participatory narrative inquiry projects such as these, as well as a ‘topic modelling’ analysis of free-form text responses (with assistance of Dr. T. Lynam, Reflecting Society). While the consultations and captured experiences were in no way monolithic – and indeed revealed the breadth of voices to be expected given the variety of disciplinary expertise represented – several patterns and themes were revealed in the synthesis of the responses provided by the community. These were patterns related both to positive experiences and desires to ensure continuation and enhancement of these, as well as expressed concerns about need for increased support and recognition. A high level of interest was clear from many in the SMU research community to enhance their involvement in community-engaged research and other research that directly benefited communities; but also clear was a broader call for increased institutional support to not only facilitate connections to community but also to build collaborative networks of researchers to work together, bringing multi-disciplinary lenses to increasingly challenging (“wicked”) problems.

These revealed commonalities of ideas are what has guided the defined *Actions* and *Major Research Themes* that are outlined in this SRP.

Major Research Themes

The identification of a selected, small number of Major Research Themes is a key component to meet the four stated Research Objectives of this Strategic Research Plan. The five Major Research Themes outlined below are:

- consistent with the consultation results;
- encompass areas with either a demonstrated history of research strength or a recent growth in development at Saint Mary's; and,
- reflect areas of interdisciplinary and/or multidisciplinary inquiry that provide solid foundations on which to invite faculty from across campus to build collaborative networks.

Excellent scholarly activity and research is carried out in many disciplines beyond those that may identify a connection to any of these five Major Research Themes. However, these Themes are defined to provide strategic focus for resource investment – and allocation of Canada Research Chairs in particular – which are designed to engage a broad sector of Saint Mary's faculty into the key areas. With the support of the associated **Actions** defined in the subsequent section, these Themes are intended to enhance the research success and profile of the entire research enterprise at Saint Mary's University (both inside and outside of the defined Themes) through developing and fostering research network-building and research excellence.

This Strategic Research Plan's completion, launch and implementation were delayed as it was completed during the time of the interruptions and restrictions imposed on the university – and societies worldwide – by the COVID-19 pandemic. During this pandemic period, it became abundantly clear the importance of providing a solid network of support for faculty researchers at Saint Mary's, and the need to ensure this support is sustained.

Each of the Major Research Themes:

- draws upon researchers from multiple disciplinary Departments, and from all three SMU Faculties;
- exemplifies research excellence obtained and maintained through strong collaborations, partnerships, and networks with other institutions (regionally, nationally, and internationally);

- has SMU graduate programs contributing to the research as well as a long history of engaging undergraduate students in the research; and,
- carries a tradition of disseminating and translating the outcomes of research to receptor communities who can best benefit.

These Major Research Themes are not presented in any order of priority, and the brief discussions provided are meant as exemplars only, without meaning to be exhaustive nor exclusionary.

The Major Research Themes are not mutually exclusive, rather are designed to be mutually reinforcing – allowing innovative scholarship within the **Arts, Science, and Business** to contribute collaboratively to enhancing the Themes to raise the overall impact of Saint Mary's University research.

- **Climate Change and the Environment – Monitoring, Impact Assessment, Solutions**

Saint Mary's University has developed clusters of research excellence across disciplines that centre on understanding the wide range of impacts on the environment and society arising from Climate Change, and on developing solutions to minimize these impacts. In support of these efforts, Saint Mary's has established a *School of the Environment* which serves as a hub for environmental education, research, and outreach, bringing together students and professors from all of the university's programs that are explicitly environmental in focus. Our environment-focused academic units, both inside and outside of the School, have fostered a strong scholarly atmosphere for undergraduate, graduate students and faculty researchers alike.

Strong climate change monitoring/impact research programs have arisen within several Departments. For example, out of the Department of Environmental Science – e.g.: atmospheric aerosol/pollution monitoring; investigations into the sustainability and resilience of ecosystems, with particular emphasis on invasive species and environmental contaminants as stressors; and, leadership in the area of global soil biodiversity. From within the Department of Geography and Environmental Studies has emerged two decades of leadership engaging in research and partnerships related to climate change adaptation, focusing on nature-based solutions, leading to the creation of our *TransCoast Adaptations Centre for Nature-Based Solutions (TCA)*; as well as years of community-collaboration in water quality monitoring. Saint Mary's is also home to the *Community Conservation Research Network (CCRN)*, an international initiative to study and support local communities in their efforts to engage in environmental conservation that sustains local livelihoods, and to encourage best practices of governments to support these community initiatives. While still not an exhaustive list, the initiatives within the Department of Chemistry (significant activity in the green chemistry sector) and Global Development Studies (impact

assessment of national and global carbon pricing policies, global climate governance, and the green energy transition) round out these exemplars.

The objectives within this Major Research Theme include:

- To engage in research that focuses on the Environment, particularly the impacts of Climate Change, through leadership in monitoring, assessing impact, or investigating/implementing solutions to respond to such impacts.
- To engage in research that studies societal impacts of Climate Change, including leadership in public policy solutions to respond to such impacts.
- To enhance and build interdisciplinary networks of researchers, from within and external to Saint Mary's University, and community partners to monitor, assess impact, and develop solutions to issues arising from Climate Change.

- **Connecting to Communities - Engaging, Partnering, Supporting Atlantic Canada communities**

The central role of community connection for Saint Mary's University is explicitly expressed in the Research Mission. We adopt a broad sense of community – “from around the corner, to around the world” – in our mission to engage in research that supports communities, wherever they may be, while maintaining our particular strength and focus also on Atlantic Canada.

Saint Mary's has a well-established tradition of excellence in Atlantic Canada Studies, with the university's longest-running research institute – the Gorsebrook Research Institute – providing key leadership in this area. The university is unique in offering both Bachelors and Master of Arts degree programs in Atlantic Canada Studies, with the graduate program supporting student research that combines social, scientific, ecological, cultural, historical, and population health perspectives with our regional community lens. The Centre for the Study of Sport and Health, which emerged from within the Gorsebrook Research Institute to focus more directly on issues of sport and health, has now established itself as a key research Centre regionally – for example, hosting the international Hockey Conference, and leading important research on LGBTQ+ and gender issues within hockey culture.

With a specific lens to engaging with Nova Scotia communities, Saint Mary's is the lead and host institution for a province-wide (provincially supported) multi-institutional network dedicated to community-engaged research: the Change Lab Action Research Initiative (CLARI). Saint Mary's researchers have been able to both establish new community contacts, as well as expand existing relationships, with the support of CLARI and are making important research contributions with a broad range of community partners; for example, in areas of: equity and

bias within law enforcement and incarceration; food security; skill-training and issues of equitable access within both the not-for-profit and for-profit sectors. CLARI has also provided support for Saint Mary's in establishing and/or maintaining research partnerships with Nova Scotia Mi'kmaq and African Nova Scotian communities and community groups.

The objectives within this Major Research Theme include:

- To engage in community-engaged research involving collaborative partnerships with community groups to support the social and economic development, health, and wellbeing of these communities – from Nova Scotia, to Atlantic Canada, and beyond.
- To enhance the interdisciplinary study of culture, peoples and their history, the natural environment and its resources, and health and wellbeing, as it relates to – and extends beyond – Atlantic Canada.
- To enhance and build interdisciplinary networks of researchers, from within and external to Saint Mary's University, who will engage with community groups to conduct research relevant to supporting, and improving, the lives of people in these communities.
- To build and maintain sustained relationships with Nova Scotia Mi'kmaq and African Nova Scotian communities, so that Saint Mary's can be a trusted partner on research in areas these communities identify as important.

- **Innovative Science – Exploring Fundamentals, Developing Applications**

A substantial part of the growth in garnering external funding support for research at Saint Mary's University over the last two decades is related to research in areas broadly defined as the *Natural Sciences* – emerging out of nine departments/divisions that support these areas (Astronomy & Physics, Biology, Chemistry, Engineering, Environmental Science, Geography, Geology, Mathematics & Computing Science, and Psychology). External research grants and contracts from these units represented approximately 70% of the university total in 2021. Further, of this external funding for Natural Sciences research, over two-thirds represented contract partnerships supported through our Office of Innovation and Community Engagement – which indicates research that had a directed application and defined deliverables. This reflects Saint Mary's University's strong positioning in applied research within the natural sciences, balanced by solid leadership in fundamental, curiosity-driven science research.

As previously noted, the Major Research Themes are not mutually exclusive, and thus many of the research activities highlighted above under the Theme of "Climate Change and the Environment" are indeed examples of innovative applied-science research initiatives at Saint

Mary's. Impactful applied natural science research leadership is now well established in each of the eight departments/divisions listed above – from the use of lipidomics in an organic geochemistry lab to de-risk offshore natural gas and petroleum exploration; to applications in sustainable nanotechnology, such as a fabric-based electrode chip for electrochemical surface-enhanced Raman spectroscopy; to lowering the risk of biomass feedstock supply chains through studies of purpose-grown biomass crops; to biomedical-engineering studies of collagen fibre strength within the centre of intervertebral discs.

The university's largest research-based graduate program – the M.Sc. and Ph.D. in Applied Science – ensures a vibrant training environment that supports and sustains these research activities across disciplines, along with the M.A. Geography program. The university's newest M.Sc. program, in Computing and Data Analytics, is also now firmly established as the region's premiere training centre for data analytics, providing ever-growing connections between Nova Scotia's high-tech and start-up sector and Saint Mary's students and faculty research expertise in computing and analytics.

Saint Mary's has a long history of international leadership within fundamental, curiosity-driven, Natural Science research – most notably in the areas of Astrophysics and Subatomic Physics. With a strength in Computational Astrophysics, and supported by the Institute for Computational Astrophysics, Saint Mary's researchers are well-established leaders on the Canadian astronomy landscape – for example: being part of core science teams for one of the four instruments on the James Webb Space Telescope (JWST), for the Canadian Space Agency's CASTOR mission, and for the next-generation instrument for the Gemini Telescope, GIRMOS; and, being the Canadian lead on the international X-Ray Imaging and Spectroscopy Mission (XRISM) in collaboration with the Japan Aerospace Exploration Agency. In the area of Subatomic Physics, Saint Mary's researchers are international leaders in experimental nuclear astrophysics, leading major experimental initiatives at Canada's national nuclear physics facility (TRIUMF) as well as other international facilities (e.g. the GSI Helmholtz Centre for Heavy Ion Research in Germany). These fundamental Natural Science research areas are supported by the university's longest-standing M.Sc. program (M.Sc. Astronomy) as well as the Ph.D. Astronomy, along with the Applied Science graduate programs.

The objectives within this Major Research Theme include:

- To engage in applied natural science research involving collaborations with industry or government agency partners to not only advance the technical challenges presented, but also provide quality experiential learning opportunities for undergraduate and graduate students.

- To enhance and build interdisciplinary networks of researchers, from within and external to Saint Mary's University, to develop innovative scientific approaches for projects aimed at improvements in industry, government, or other technical applications.
- To develop and enhance national/international collaborations in the pursuit of advances in fundamental natural science research, with a particular emphasis in the fields of Astrophysics and Subatomic Physics.

- **Modern Global Citizenship Issues – Migration, Development, Big Data**

At the heart of the current Strategic Plan (2017-22) for Saint Mary's University is the pillar of Intercultural Learning. This pillar has been driven by the long-standing international character of our student body, with students hailing from over 100 countries and representing approximately 30% of the student population. With this context of being a truly international university, Saint Mary's finds a natural focus on global issues: on understanding the meaning of citizenship, and the connections to movements of people – immigration, migration, forced displacement – and the factors which drive those movements, including the wealth and social inequity between countries, and individual life and career aspirations. With unprecedented numbers of people forced to migrate globally due to war, conflict, disasters, and climate breakdown, the urgency to analyze and assess what citizenship and community mean is more pressing than ever. From across a variety of departments and disciplinary backgrounds, Saint Mary's researchers are contributing in impactful ways to these complex challenges, forming the genesis of coherent research cluster under this Major Theme. Some examples of research initiatives now underway within this Thematic cluster are listed below.

Housed in the Department of Economics, the *Atlantic Research Group on Economics of Immigration, Aging and Diversity* is a regional centre focused on research and knowledge mobilization related to the economic significance of immigration, diversity and aging. From within the Departments of Sociology and Global Development Studies, international research projects addressing important issues of sexual and gender-based violence (SGBV) in migration are underway, particularly in forced migration of asylum-seekers. Also within Global Development Studies and Geography, research is ongoing to assess how climate change is already contributing to forced migration due to flooding, droughts, food and water insecurity, extreme weather, and the loss of livelihoods, while analyzing global governance challenges at the intersection of climate change and forced displacement. Approaching these ideas of immigration and citizenship from a regional and historic perspective, research from the Department of History and the Atlantic Canada Studies Program centres on religion, migration and minority identities in the north Atlantic, including a special focus on sustainable

development and rural change in Nova Scotia. Along with delving into an array of timely and topical citizenship concerns regarding democratic qualities of political regimes, the Department of Political Science explores the cross-cutting gender, race and class dynamics of citizenship and immigration policy in Canada, and examines migration changes and challenges in the United Kingdom and European Union through the lens of comparative politics. Finally, illustrating the diversity of approaches within this Thematic cluster, emerging from the Departments of Social Justice and Community Studies, Sociology, and Criminology are important investigations into issues of equity, representation, integration, and identity, and how these frame and shape perceptions of citizenship in our modern context. Saint Mary's University's graduate programs in Global Development Studies (M.A. and Ph.D.), Applied Economics, Geography, Criminology, and Women and Gender Studies all provide strong support, and a rich training environment, for tackling these topics.

Surrounding all of this research activity into Modern Global Citizenship issues, sits the omnipresent role of data, including "big data," how it shapes and defines notions of "modern citizenship," and the role it can play in addressing critical challenges connected to human mobility. As these and other research initiatives in this Thematic area continue and grow, the primary role of "big data" that can inform meaningful research and policy becomes clear – and Saint Mary's University is now extremely well positioned to contribute through expertise in Computing and Data Analytics. The newly established Wicked Problems Lab is providing a hub of expertise to apply geospatial computing techniques and analytics for research questions related to Citizenship issues. In addition, the faculty leaders overseeing the training and internship of students in the Computing and Data Analytics M.Sc. program will be key to providing support for the social science "big-data" emerging from research projects in this area. Similarly, as the new Master of Business Analytics degree program launches in 2022, more capacity to support research in this cluster will be available. However, researchers at Saint Mary's are not only harnessing meaningful data to inform how we understand and address challenges connected to modern global citizenship, they are simultaneously assessing the moral and ethical issues associated with the generation of this data to better understand how the growth of computing is shaping society's relationship with big data and the impact on our humanity – on our ability to be a "citizen".

The congruence of Saint Mary's research expertise, across these many seemingly disparate departments/programs/approaches, positions the university extremely well to capitalize on interdisciplinary approaches to face important issues within the thematic area of *Modern Global Citizenship Issues*, with specific attention to *Migration, Development*, and the role and impact of *Big Data*.

The objectives within this Major Research Theme include:

- To enhance and build interdisciplinary networks of researchers, from within and external to Saint Mary's University, to develop innovative approaches (involving social sciences, humanities, and/or computing/analytics) for projects addressing important issues related to the broad concept of *Modern Global Citizenship*.
- To develop and enhance national/international collaborations in the pursuit of advancing the understanding of issues related to the migration of peoples, including (but not restricted to): driving forces behind migration, experiences of migrating people, impacts and role of immigration in host/receptor regions, and integrative experiences of immigrant people.
- To provide critical, evidence-based, and justice-focused policy guidance to support global efforts to support people on the move.
- To develop and enhance the use of data analytics to support research within the broad thematic area of *Modern Global Citizenship*.

- **Innovation in Business and Workplace Studies**

This Major Research Theme is the only one which has been retained through all prior versions of the Saint Mary's Strategic Research Plan, and into the current Plan. This continuity arises because of the already broad and interdisciplinary reach of this Theme (a key aspect for all Major Research Themes in the current Plan), and because of the ongoing high-quality research leadership that continues to emerge within this Thematic area. Saint Mary's University is home to the leading Atlantic Canadian university both in Business Studies and in Industrial/Organizational (I/O) Psychology, and continues to be recognized for its innovation in these fields.

The Sobey School of Business is the largest and most respected Business School in Atlantic Canada. It is the only comprehensive Business School in the region, offering academic and research programming at the undergraduate, Master and Ph.D. levels. The Ph.D. in Business Administration (Management) is the longest running doctoral program at the university, with a two-decade history; this Ph.D. program is just now beginning its expansion with two new specialty streams in Accounting and Finance. This newly expanded Ph.D. program will now support research across the broad scope of the Business School's research strengths, including: critical management studies, management history, management of co-operatives and credit unions, organizational behaviour, human resource management, finance – particularly international finance – and information systems. Research in these fields is supported by our

Centre for Leadership Excellence, Centre for Excellence in Accounting and Reporting for Co-operatives, and the International Centre for Co-operatives Management hosted at Saint Mary's. Beyond these Centres, research in these business studies areas is supported by key educational priorities embedded within the School's programs: the School is a signatory to the Principles for Responsible Management Education (PRME) initiative of the United Nations, which has spurred more research in the area of Corporate Social Responsibility (CSR); and, the School has a confirmed commitment to an Evidence-Based Management (EBM) framework, particularly within the Executive MBA and new Executive Doctorate of Business Administration (eDBA) which will support important applied research projects. Finally, the new Master of Business Analytics program will provide training and research-intern support for the wide scope of business studies research areas using modern tools of business analytics.

Outside of the Business School, Saint Mary's also hosts one of the largest and most research-active groups of I/O Psychologists in North America. Housed within the Psychology Department in the Faculty of Science, academic and research programs are offered at the undergraduate, M.Sc. and Ph.D. levels – with students in the Ph.D. I/O Psychology program consistently achieving our highest level of external scholarships of any program. Research excellence has been long established in the areas of occupational psychology, healthy workplace studies, and organizational safety culture. This research cluster is supported by the leadership of our C.N. Centre of Occupational Health and Safety, a regional leader and internationally recognized centre for research in occupational health and safety, including occupational health psychology.

The objectives within this Major Research Theme include:

- To enhance and build interdisciplinary networks of researchers, from within and external to Saint Mary's University, to foster research in finance to help develop in-depth understanding of financial markets, and the decision-making processes in order to optimize the interaction of corporations with their environment, and enhance investor's education.
- To maintain a national leadership position in Industrial/Organizational (I/O) Psychology, and Human Resource Management, in recognition of its vital importance to a knowledge-based economy, and Saint Mary's record of excellence in these fields.
- To enhance and develop research targeted at psychological health in the workplace, with particular attention to job-related stress, coping mechanisms, burnout, and balanced-living strategies – areas that have emerged critically through the COVID-19 pandemic restrictions.

- To enhance and build interdisciplinary networks of researchers, from within and external to Saint Mary's University, to foster research on information systems and technology that will help local, regional, and national businesses and entrepreneurs to succeed in the marketplace.
- To support and enhance knowledge translation to transfer new research findings in *Business and Workplace Studies* to academic and business communities locally, regionally, nationally, and internationally.

Actions

The following Actions are provided to support the four primary objectives of this SRP generally, and to encourage development of the research strengths in the Major Research Thematic areas specifically. These actions are listed in no order of priority:

- **Organize and hold regular workshops associated with each of the 5 Major Research Themes**
 - these are to be designed to provide a regular forum for bringing together researchers who identify their ability to contribute research expertise to the Theme;
 - allows for ongoing research network building and facilitating new collaborations, and innovative idea generation.
- **Commit to supporting community-engaged research (CER) efforts**
 - maintain active participation and support of the Nova Scotia CLARI initiative (Change Lab Action Research Initiative);
 - ensure direct research-office support staff time is specifically hired and engaged to support CER efforts of SMU faculty.
- **Engage in the development of university-wide diversity and equity strategies**
 - ensure opportunities and programs are developed for providing research mentorship of Early Career Researchers, and network building for all researchers;
 - collaboration with AVP Diversity Excellence, AVP Research, and Diversity & Inclusion Advisor:
 - to develop and implement information workshops for university community on topics such as unconscious bias and anti-black racism;

- to research and implement strategies in support of EDI in graduate studies – particularly toward holistic and inclusive graduate admission policies;
 - to inform aspects of a university Diversity Strategy as they relate to the research enterprise.
- **Align the annual internal FGSR Internal Research grant program to support the Major Research Themes**
 - relate each year's Call for Applications toward encouraging applications within either of two identified Major Research Theme areas in each given year;
 - provide larger grants than have historically been used for internal grants to help ensure greater potential impact and support for researchers.
 - **Hire a Research Grants Facilitator**
 - will provide leadership in assisting faculty to both identify funding opportunities and to have support in the writing of proposals/applications;
 - will encourage and support nominations of faculty members for national research award and recognition programs.
 - **Establish a Research Advisory Committee**
 - to support the AVP Research, providing help in identifying opportunities and issues impacting scholarship and research at SMU;
 - to assist in ongoing assessment of progress toward SRP objectives.
 - **Establish a Research Supervision Award**
 - to promote excellence in student research training.

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