

Annual Report on Research Activities at Saint Mary's University for 2016

Dr. J. Kevin Vessey

Associate Vice President Research

Preface

This report conforms to the template agreed upon by universities in Nova Scotia and the Department of Labour & Advanced Education in September 2013. Each January, the research activity of the University for the Previous Reporting Year is described. In some items, the reporting period is the previous fiscal year (1 April 2015 to 31 March 2016; e.g. funding statistics), the previous academic year (1 September 2015 to 31 August 2015 e.g. enrolments) or the previous calendar year 2016 (e.g. publications).

Contents

Introduction	1
Research Activities	2
Research Highlights	2
Research Funding	5
Highly Qualified Personnel (HQP) Training	9
Industry Engagement	13
Knowledge Creation and Mobilization	14
Research Collaborations	16
Research Environment	16
Other Success Stories	17
Appendix 1 - NSGS Annual Report	19
Appendix 2 – Comparator Universities (internal only)	21

Introduction

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.

The *Major Research Objectives* of Saint Mary's University 2012-17 Strategic Research Plan (SRP) are:

- To carry out high quality research that builds on existing strengths and partnerships, with particular emphasis on interdisciplinary endeavours;
- To develop research programs that are valued by, relevant to, and engage communities - locally, regionally, nationally and internationally;
- To ensure that students, both undergraduate and graduate, benefit from research activities at the University.
- To disseminate and translate the outcomes of our research to receptor communities who can best benefit from them.

The five *Major Research Themes* of Saint Mary's SRP are:

- Research for Atlantic Canada Communities
- Innovation in Business and Workplace Studies
- The Environment and Natural Resources
- Astronomy, Computational Sciences, and Subatomic Physics
- International Development and Human Migration Issue

Research Activities

1. Research Highlights (Academic Year 2015-16; maximum 3)

- **Funding Announced for Change Lab Action Research Institute at Saint Mary's** (7 October, 2015)
Communities across Nova Scotia will soon have access to a network of academic experts and research with new funding from the Department of Labour and Advanced Education. Minister of Labour and Advanced Education Kelly Regan today announced provincial funding for the Change Lab Action Research Institute (CLARI) at Saint Mary's University. Housed at Saint Mary's and in partnership with six other universities and colleges, CLARI will develop a network of experts and professionals across Nova Scotia to open up new possibilities for social and economic development throughout the province. CLARI will allow the expertise of each partner institution to be shared throughout the province not only giving them more reach, but more opportunities to assist all parts of the province in developing social and economic improvement projects. A \$1.1 million investment from Labour and Advanced Education over two years will be used to construct and run the CLARI hub in the Saint Mary's Atrium. The main hub will be connected to the partner institutions throughout the province through specialized video links. These partner institutions stretch from one end of the province to the other and include Cape Breton University, St. Francis Xavier University, Mount Saint Vincent University, Acadia University, Université de Saint-Anne and NSCC. Also see: <http://www.smu.ca/about/news/2015/change-lab-action-research-institute-.html>



(l-r) Dr. David MacKinnon, Dean of Research and Graduate Studies, Acadia University; Dr. Kevin Vessey, Saint Mary's Dean of Graduate Studies and Research and CLARI lead; Kelly Regan, Minister of Labour and Advanced Education; Dr. Robert Summerby-Murray, Saint Mary's President; Rachel MacDonald, Vice President Academic Affairs, SMUSA.

- **Saint Mary's Professor Recognized by Society for Psychology in Management** (11 January, 2016)
Dr. Kevin Kelloway will be honoured by the Society for Psychology in Management (SPIM) when he receives the Distinguished Psychologist in Management Award next month. Annually awarded by SPIM, the Distinguished Psychologist in Management Award recognizes outstanding contributions to the practice of management by a psychologist. "The Distinguished Psychologist in Management Award is SPIM's highest honor, celebrating excellence in the area of psychology and management," said Dr. Beth Mitchell, SPIM President. . "It is presented to an individual who has developed and implemented practices that have a major impact on people in organizations and on the professions of management." Dr. Kelloway added that the award is also a reflection of the strong work and research being done at Saint Mary's, specifically in the Industrial/Organizational psychology program. Dr. Kelloway will be presented with the award and honoured by his peers at the SPIM annual conference being held in Atlanta from February 24-28. Also see: <http://www.smu.ca/about/news/2016/saint-marys-professor-recognized-by-society-for-psychology-in-management.html>

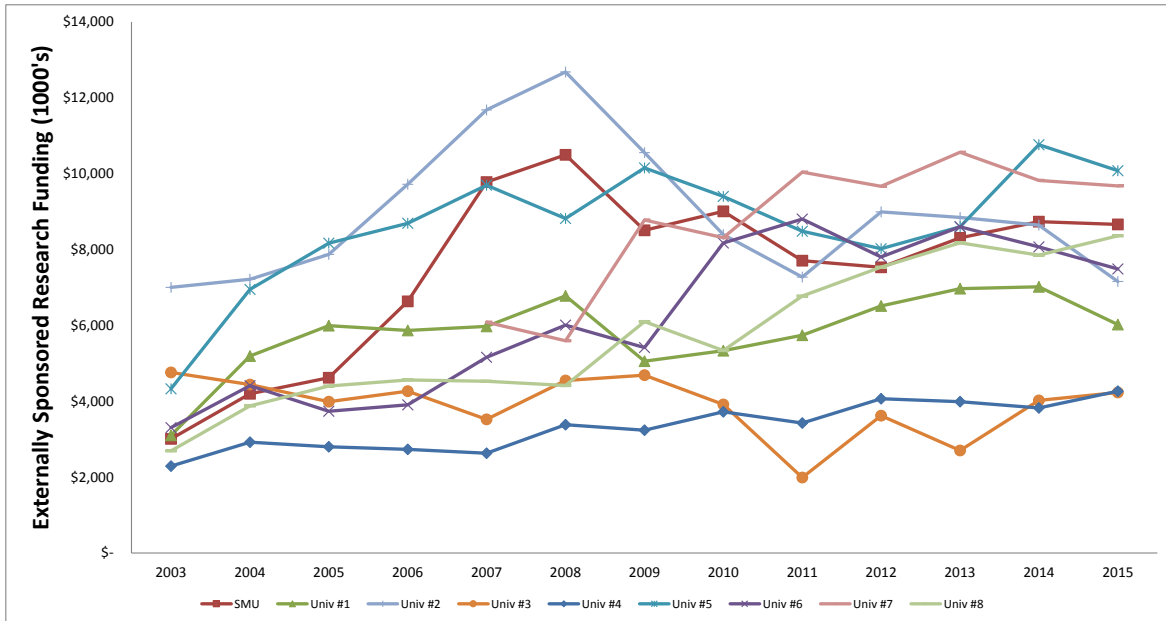


- **A New Look at Space with Help from Saint Mary's** (4 February, 2016) On February 12, 2016 the Japan Aerospace Exploration Agency (JAXA) will be launching ASTRO-H, a space observatory from Tanegashima Space Center. ASTRO-H was developed in collaboration with universities and research institutes from Japan and internationally including the Canadian Space Agency and Saint Mary's University. Dr. Luigi Gallo, a Saint Mary's astronomy and physics professor leads the Canadian science team that worked on the project. ASTRO-H is a scientific satellite that will have the most advanced X-ray detectors ever flown in orbit around Earth. X-rays are 1,000 to 10,000 times more energetic than visible light and are invisible to the naked eye. X-rays are effectively blocked by Earth's atmosphere so an orbiting telescope is necessary to see them. These X-Rays are emitted by numerous astronomical objects, including black holes, neutron stars and galaxy clusters. ASTRO-H is equipped with a laser measurement system, the Canadian ASTRO-H Metrology System (CAMS), was built by Neptec Design Ltd. for the Canadian Space Agency. CAMS will assist ASTRO-H's Hard X-ray telescope in making unprecedented observations of phenomena such as black holes, supernova explosions, neutron stars and make advances toward understanding how galaxies were formed. The scheduled launch date and time for ASTRO-H is February 12 at 4:45 am AST. Dr. Gallo will be in Japan for the launch and JAXA will be providing a live webcast. Also see: <http://www.smu.ca/about/news/2016/a-new-look-at-space-with-help-from-saint-marys.html>



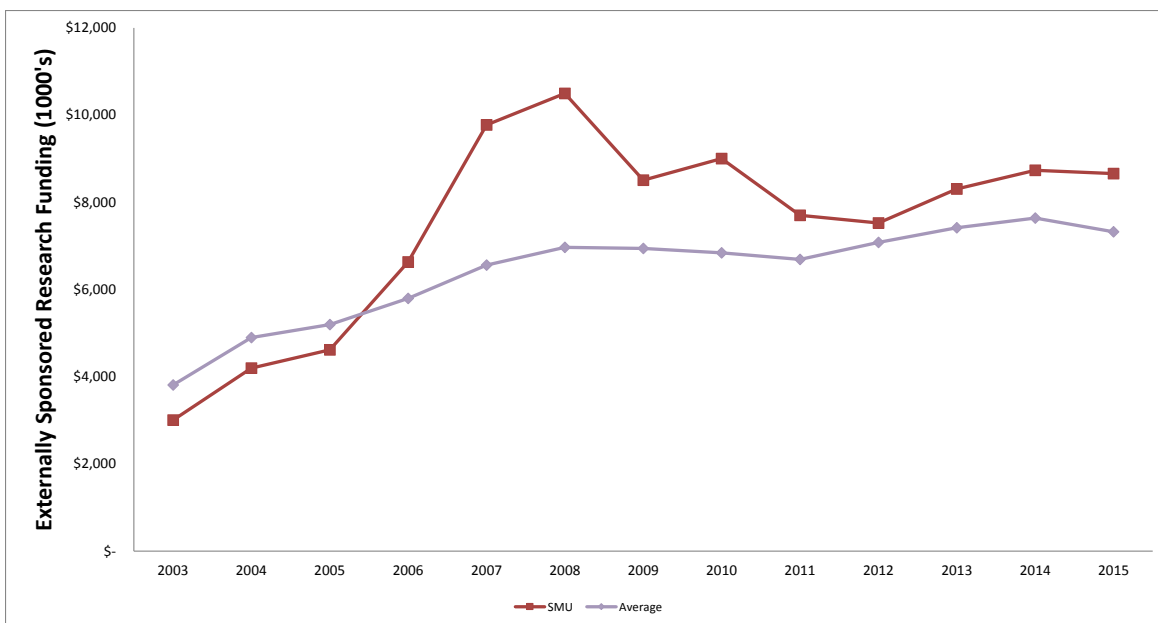
2. Research Funding

- a) **Total externally sponsored research at SMU relative to eight “comparator” Canadian universities (fiscal years ending 2003 to 2015).** Comparator universities were selected based upon levels of research funding in 2003 and/or regional considerations (key to the comparator universities can be found in Appendix 2; the key is for internal use only and not to be circulated outside of SMU).



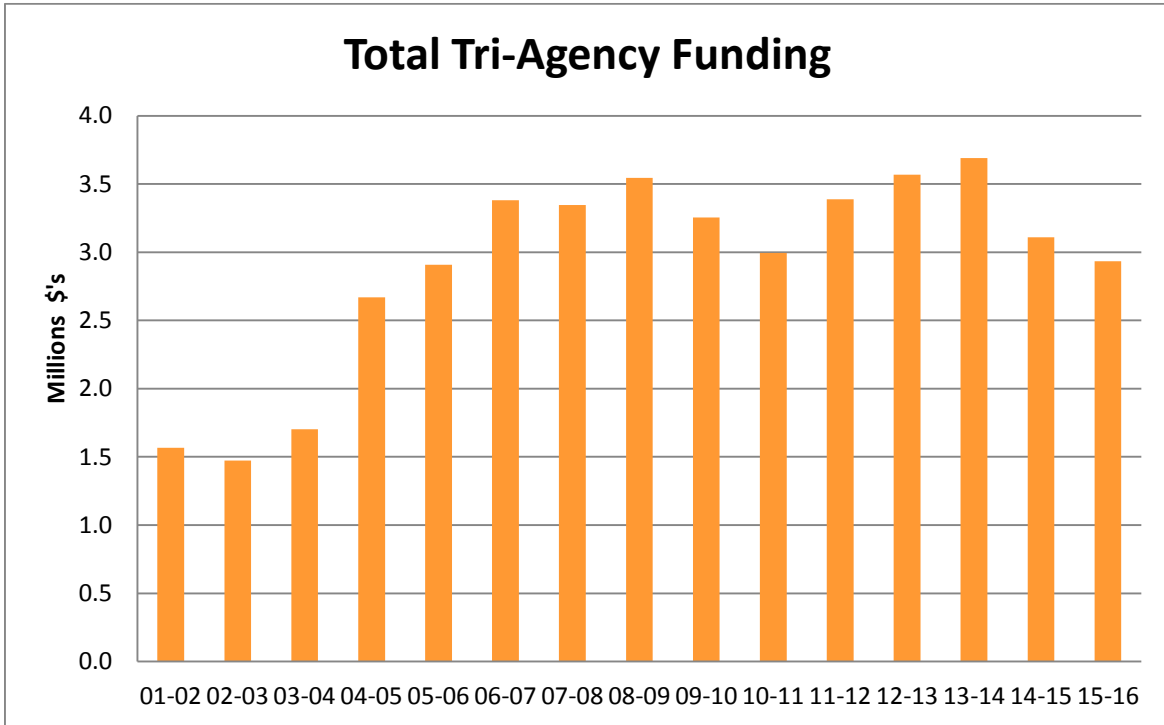
Source: CAUBO

Total externally sponsored research at SMU relative to average of eight “comparator” Canadian universities (fiscal years ending 2003 to 2015).

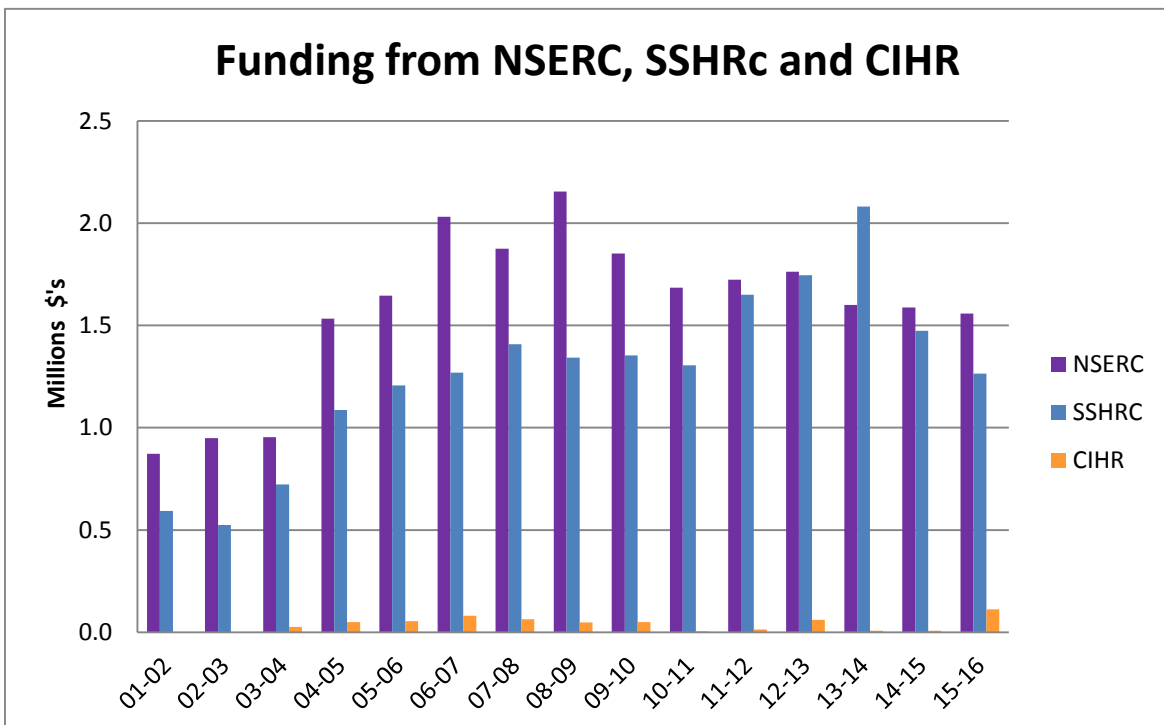


Source: CAUBO. NB: Peak in funding in 2007-2008 due to large ACOA and NSERC institutional grants.

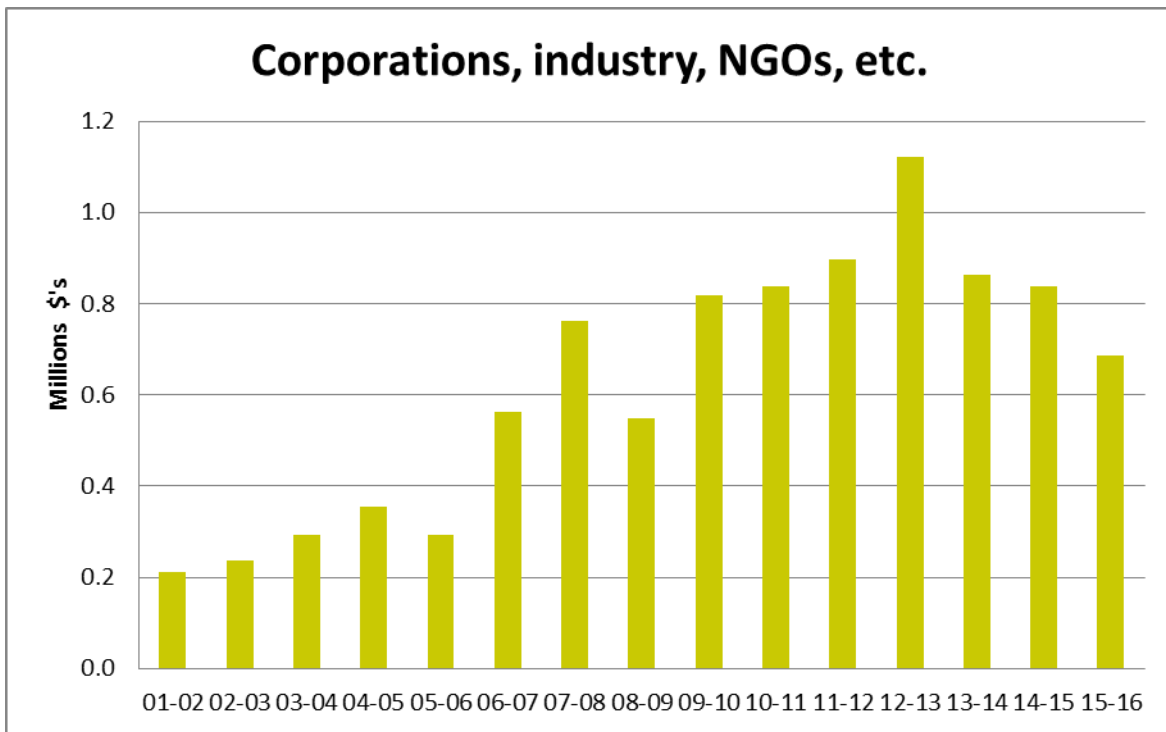
b) Total Tri-Council (NSERC, SSHRC and CIHR) funding at SMU (fiscal years ending 2003 to 2016)



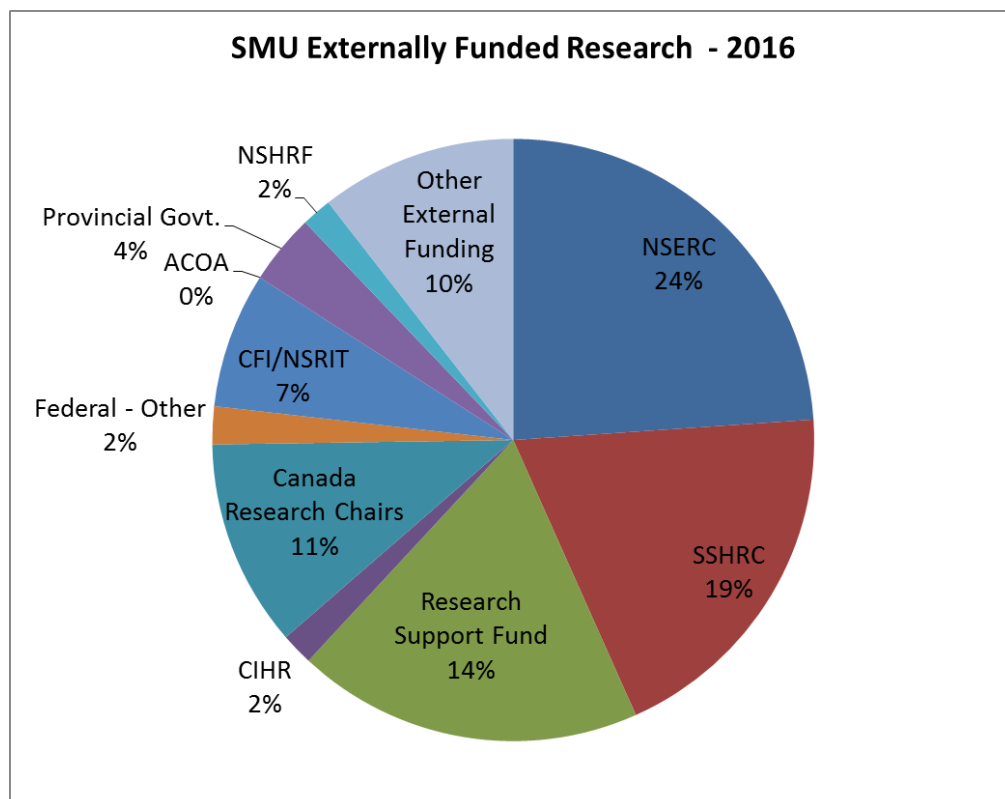
Tri-Council (NSERC, SSHRC and CIHR) funding at SMU (fiscal years ending 2003 to 2016)



Total grant and contract funding from “other” sources (industry; NGO; government departments, etc.) (fiscal years ending 2003 to 2016).



Sources of external support for research – Fiscal year ending 31 March 2016:



- c) **Research Infosource Rankings** (<http://www.researchinfosource.com/>): Research Insource annually creates its “Top 50 Research Universities” and “Research Universities of the Year” (RUY) lists for Canada. The Top 50 list is simply based upon universities’ externally sponsor research income while the RUY rates universities in terms of research impact relative to research funding. RUY rankings take into account both financial inputs, research outputs and impact/quality measures. The financial input measures are: total sponsored research income and research intensity. The research output and impact/quality measures are: total number of publications, publication intensity and publication impact.

SMU’s Rank in the Top 50 List

Year	Research \$'s	Rank
2002	\$ 1,924,000	52
2003	\$ 3,007,000	50
2004	\$ 4,198,000	50
2005	\$ 4,619,000	48
2006	\$ 6,634,000	47
2007	\$ 9,775,000	44
2008	\$ 10,497,000	44
2009	\$ 8,507,000	49
2010	\$ 9,005,000	46
2011	\$ 7,703,000	48
2012	\$ 7,528,000	50
2013	\$ 8,306,000	48
2014	\$ 8,735,000	46
2015	\$ 8,661,000	46

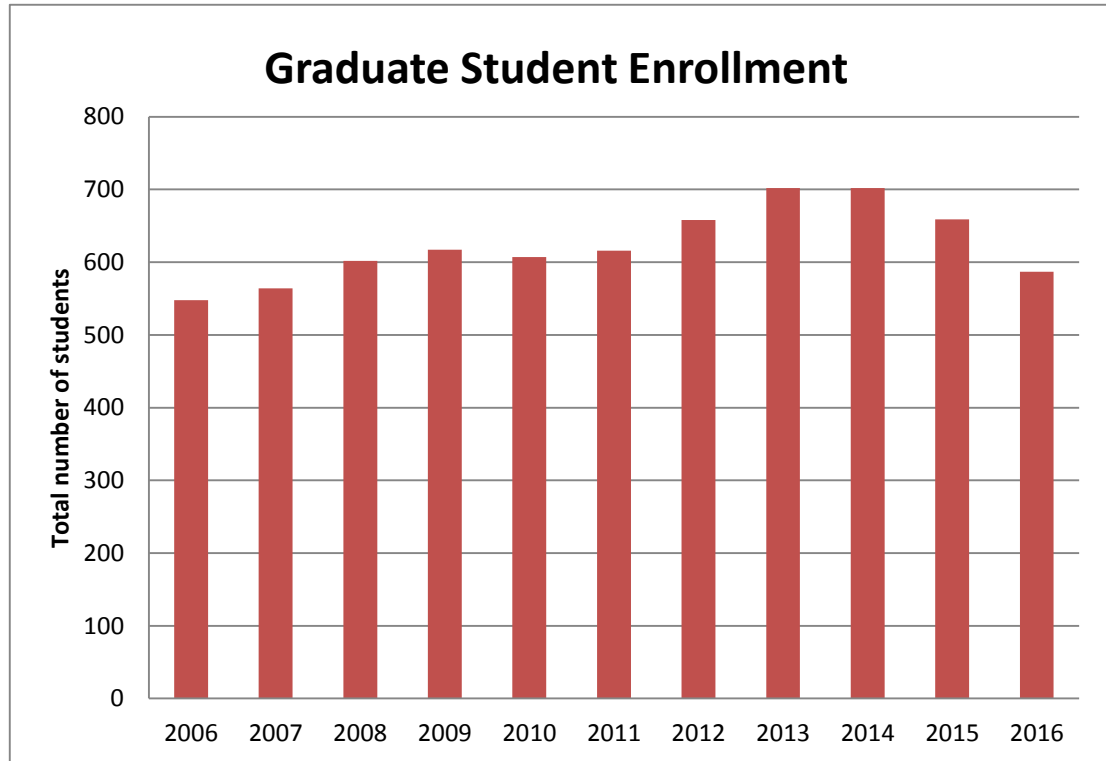
SMU’s Rank in the RUY List

Year	Rank
2002	Not ranked
2003	48
2004	47
2005	47
2006	41
2007	37
2008	36
2009	36
2010	35
2011	42
2012	39
2013	41
2014	44
2015	35

3. Highly Qualified Personnel (HQP) Training

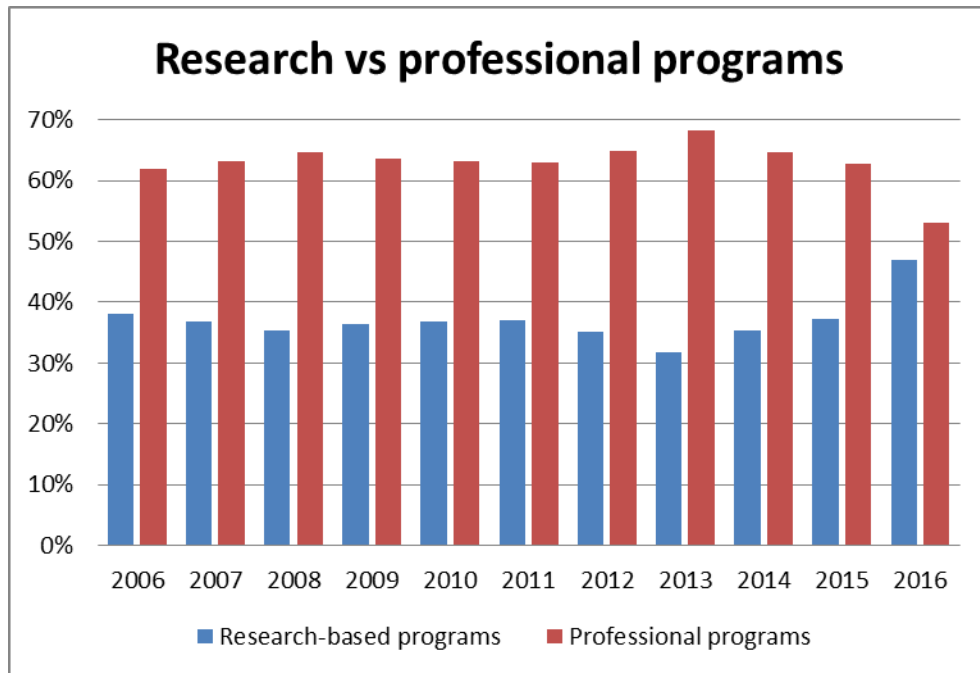
Saint Mary's University offers 26 graduate programs across a wide range of fields in the Arts, Commerce and Science discipline. These include 5 PhD programs, 20 Master programs and 1 graduate diploma program.

- Total graduate student enrolment (based upon winter (Jan-Apr) term)



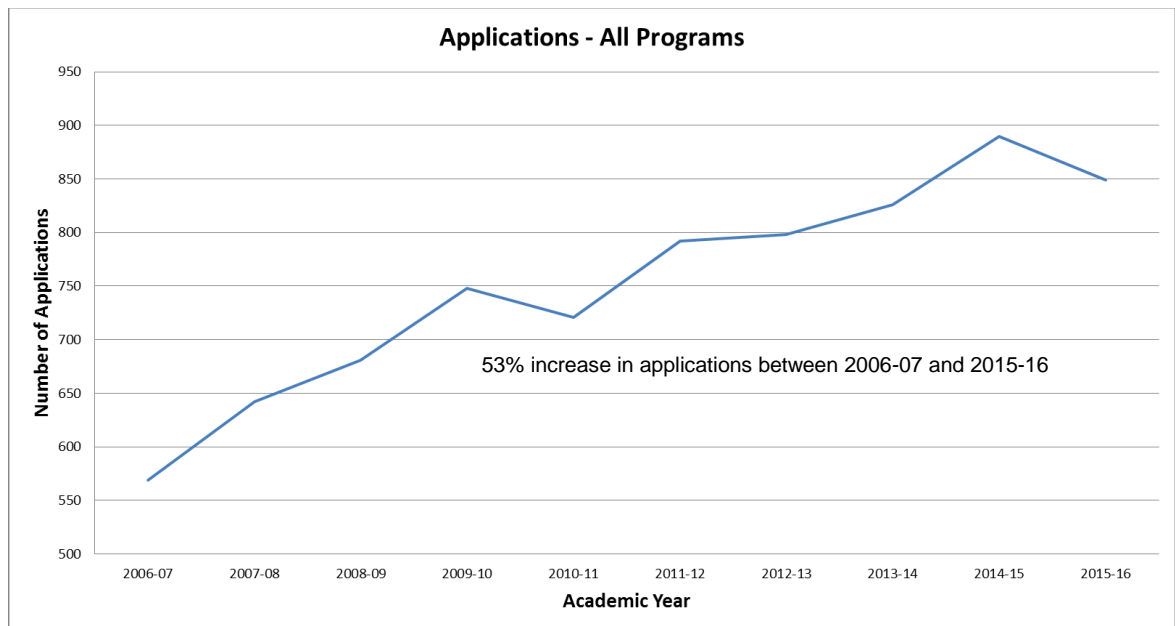
SMU experienced a decrease in total registered students in graduate programs between 2015 and 2016. This was due to the wind-down of the MBA-CMA program and the replacement MBA-CPA program just being initiated.

- Graduate student enrolment in research versus professional programs (based upon winter (Jan-Apr) term)



The decline in number of students in professional programs is almost solely due to the winding down of the MBA-CMA program.

- **Applications for graduate programs** (Academic years 2006-07 to 2014-15)



- **HQP Highlights**

- **Thanks Obama! SMU Master Student Chats with the President in the Oval Office** (4 September, 2015) As a recent participant in the Three Minute Thesis (3MT) competition, Saint Mary's student Osai Clarke is used to talking to people about his research. However, he never thought being able to succinctly describe his research would come in handy when visiting the White House. Osai is from Saint Lucia, and his mother, Elizabeth Darius-Clarke is the nation's ambassador to the United States. When she presented her credentials to President Obama at the White House earlier this summer she was able to bring her family, including Osai, with her. Osai's thesis is on plasmonic nano-architecture, tiny structures used to manipulate light. They could be used in the future to make solar power more efficient and effective. Instead of being star-struck at the opportunity to meet the , Osai brought up his research and it's applications. Fortunately for Osai, the President had given a speech on "Making a Greener America" earlier that day and was very engaged in Osai's research. Taking part in the 3MT competition not only gave Osai the confidence to share his research with President Obama, but it also helped him find a way to explain a complicated topic to anyone concisely and quickly. Also see: <http://www.smu.ca/about/news/2015/smu-student-chats-with-the-president.html>



Osai Clarke and family with President Obama

- **SMU powers international entrepreneurship** (23 December 2015) Three students at Saint Mary's University in Halifax are toiling away on a social venture that could soon help improve education in Africa. SeeMePly is a nascent company dedicated to simplifying the process of finding and applying to private secondary schools in Africa. Its co-founders, Shawn Simamba from Zambia, Samuel Ayanlaja from Nigeria and Stephanie Winter from the Caribbean island of Antigua, are all enrolled in the Master of Technology, Entrepreneurship and Innovation program at Saint Mary's. "We're developing an online platform to help to streamline the application process for private schools in Africa," said Winter in an interview. The current application process is burdensome. Students and their parents must choose from a range of schools and fill in several forms on paper for each. When applying, they have to make a cash down payment, which means going to a bank to withdraw money. Also see:

<http://thechronicleherald.ca/business/1329106-entrevestor-smu-powers-international-entrepreneurship>

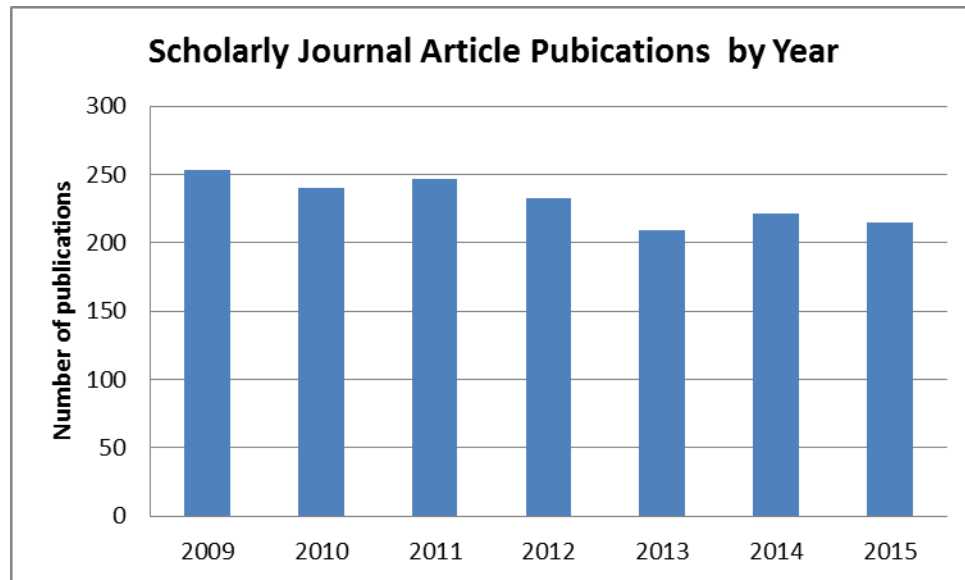
- **Graduate student wins Saint Mary's Three Minute Thesis competition** (15 April, 2016) Saint Mary's graduate student Dijana Anželj is this year's winner of the Saint Mary's Three Minute Thesis Competition. Anželj took home the title for her research into nuclear reactor corrosion in power plants. Anželj's research could be used to deliver improved safety and better stability in these nuclear reactors. This could be extremely important in the future as increased electricity production is needed which in turn could lead to more nuclear power plants. Anželj entered the Three Minute Thesis Competition to get more practice in public speaking and to battle stage fright. She also says it was a way to show herself and others the great understanding she had around her complex research. The competition also taught her the importance of delivering your message as clearly and concisely as possible and to leave your audience with the key points. Also see: <http://www.smu.ca/about/news/2016/graduate-student-wins-three-minute-thesis-competition.html>
- **Enactus Team Competing at Nationals** (3 May, 2016) A team of Saint Mary's students helped 691 youth, contributing \$122,000 to their personal wealth, diverted almost 2400 lbs of waste from landfills, helped 25 start ups become sustainable businesses, helped launch more than 125 businesses in Nova Scotia, helped 84 entrepreneurs in Peru, Bolivia and Kenya, and helped a whole lot of fellow young adults become more comfortable talking about menstruation. For the fourth year in a row, the Saint Mary's Enactus team has placed in the top four Enactus teams in Canada at the National Enactus Exposition held in Toronto May 2-4, 2016. They were also named second runner up in the Scotiabank Eco-Living Challenge for an environmental and social project that diverted almost 2400 lbs of waste from landfills by upcycling material for refugee families. These annual competitions reward campus groups for the success of entrepreneurial projects that help address social, environmental and financial literacy problems in their communities. Also see: <http://www.smu.ca/about/news/2016/enactus-in-toronto.html>
- **Chemistry students win big at three conferences** (22 June, 2016) The Faculty of Science is proud of its students' achievements at three recent conferences: 8 awards at the Regions Science Atlantic Student Conference (SASC); 2 awards at 99th National Conference for the Canadian Society for Chemistry (CSC; held in Halifax); 1 award at the Canadian Electrochemical Society Conference (ESC; held at SMU). At the SASC, Saint Mary's had a strong showing from undergraduate, graduate and faculty members, with students representing the university with strong oral and poster presentations, coming away with the lion's share of the awards, including the top three for the conference. The award winners were: Presley MacMillan - CIC Award for the Best Undergraduate Poster Presentation in Analytical Chemistry (SASC); Angela Todd - CIC Award for the Best Undergraduate Poster Presentation in Inorganic Chemistry (SASC); Chandika Ramful - CIC Award for the Best Undergraduate Poster Presentation in Organic Chemistry (SASC); Alex Veinot - Best Graduate Poster Presentation (SASC); Ifenna Mbaezue - ACENet Award in Computational Modeling of Materials (SASC); Kyle Awalt – SASC Communication Award; Bradley Green – SASC Undergraduate Research Award; Melanie Davidson - Murray Brooker Award for Best Undergraduate Oral Presentation in Chemical Education (SASC); Michael Land - Best Undergraduate Poster in Inorganic Chemistry (CSC); Ifenna Mbaezue: Best Undergraduate poster in Organic Chemistry (CSC); Osai Clarke: Best Poster Prize (ESC). Also see: <http://www.smu.ca/about/news/2016/chem-students-award-winners-at-three-science-conferences.html>
- Also see SMU's NS Research & Innovation Graduate Scholarship Holders Report – 2015 in Appendix 1

4. Industry Engagement (Springboard Atlantic Inc. performance indicators)

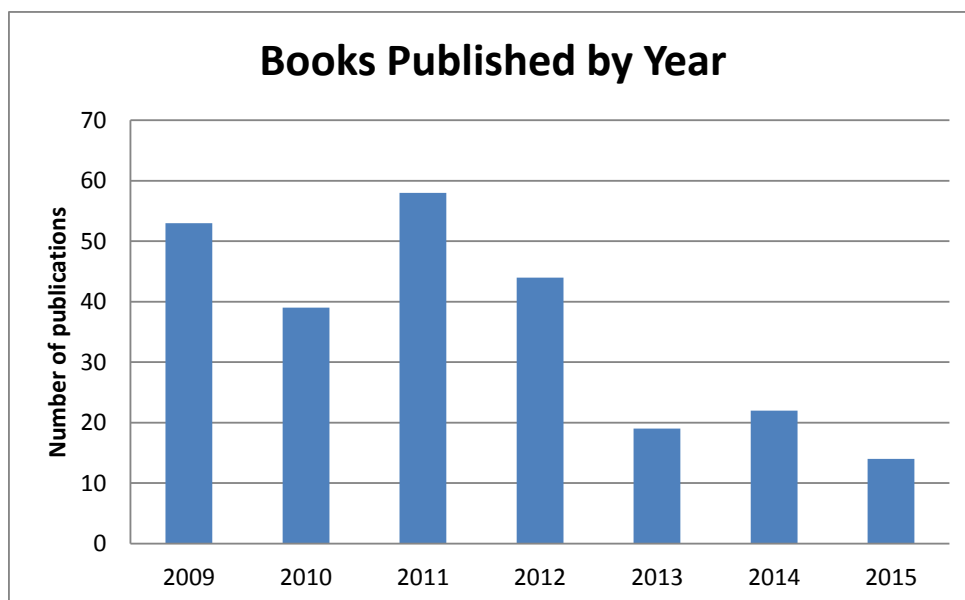
Springboard Performance Metrics - SMU	Year 2 - 2015/2016				
	Q5	Q6	Q7	Q8	Total
1. Industry Engagement Activity	10	13	7	37	67
IRAP Projects (#)	4	1	3	3	11
Total IRAP NMA Projects: (#)	4	1	3	3	11
IRAP BIAP Projects (#)					-
Other (#)					-
Tri-Council Industry Partnerships (#)	1	3	-	1	5
-Interaction - #					-
-Engage - #		2			2
-IE(CCI), ARD - #					-
- CU I2I - #					-
-ARTi #					-
-CRD - #		1			1
-I2I – Phase 2a/2b - #					-
Industry Partnership Scholarships (IPS, IRDF, MITACS) - #	1			1	2
Industrial Partnerships (SNG, SPG) - #					-
I-USRA - #					-
Industrial Research Chair, Canada Research Chairs (with industry) - #					-
- CIHR POP Phase II - #					-
-SSHRC Partnerships (with industry) - #					-
Other					-
NCE/CECR/CERC Organisation Funding or Agreements - #					-
Provincial Funding programs (Industry Project related) -#	1	5			6
CFI (for Colleges or Universities) - #					-
ACOA AIF Projects (#)	-	-	-	-	-
Number of AIF Projects Leading (Member): (#)					-
Number of AIF Projects as Subcontract: (#)					-
Other Federally funded Industry (#)					-
Other R&D Contracts (no government leveraged funding) - (#)	4	4	4	33	45
Industry R&D Contracts (#)			1	24	25
R&D Contracts (#)		1	1	2	4
Leases - Lab or incubation (#)					-
Government R&D contracts (Where Gov. is the client) - (#)	4	3	2	7	16
2. Workshops with Industry (#)	1	2		2	5
3. New Spin Off or Startup Companies: (#)	-	-	-	-	-
Spin Off or Startup with Institution IP Assigned - #					-
Spin Off or Startup from the Institution w/o IP Assignment - #					-
4. Technology and Knowledge Transfer (#)	-	1	-	-	1
Assignment of IP rights to a Corporate Entity - #					-
Option (License) Agreements - #					-
Licenses - #					-
Grant of Rights - #					-
Material Transfer Agreements (MTAs) with industry and/or must transfer IP - #					-
Other IP Transfer Agreements - #		1			1

5. *Knowledge Creation and Mobilization*

- **SMU scholarly journal article publications¹:** Searches were performed on Web of Science, EBSCO, and Proquest databases held by Saint Mary's, and Science Direct databases for the publication (calendar) years 2009 to 2015.

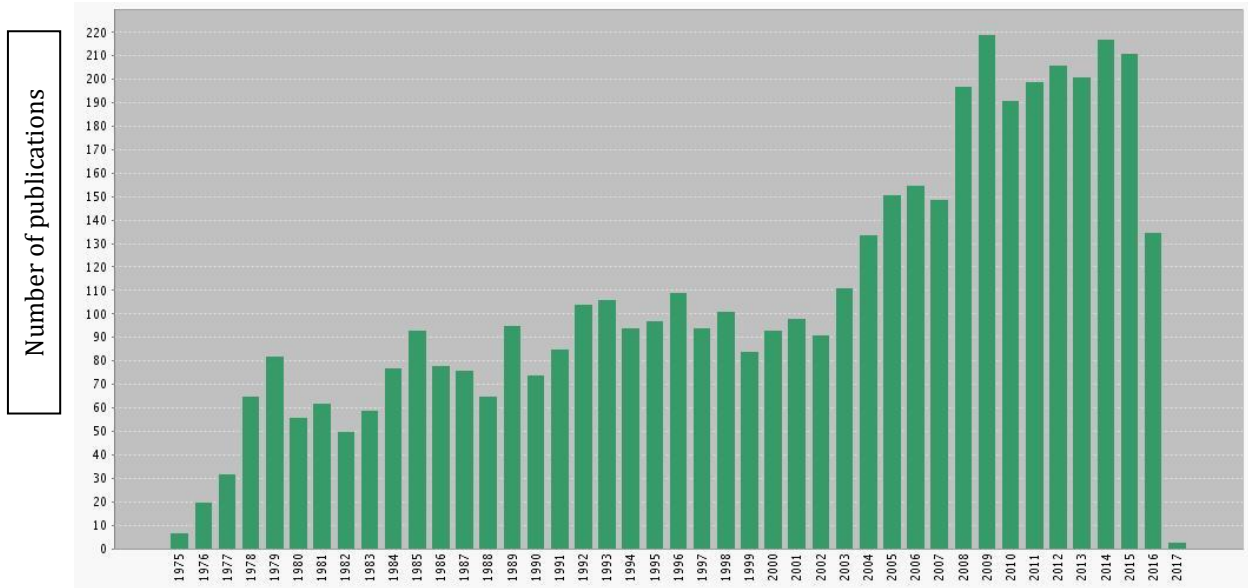


- **SMU Book Publications¹:** Searches were carried out in the OCLC WorldCat Local database for publication (calendar) years 2009 to 2012 and from the Ingram Oasis publication database for 2013 and 2014, configured for Saint Mary's University. In addition, Library staff conducted standardized searches for works by author name using lists of full-time and part-time faculty members' names. Complete books, and non-article publications, such as government reports were identified. Complete books, and non-article publications, such as government reports were identified. Book chapters were also identified where possible.

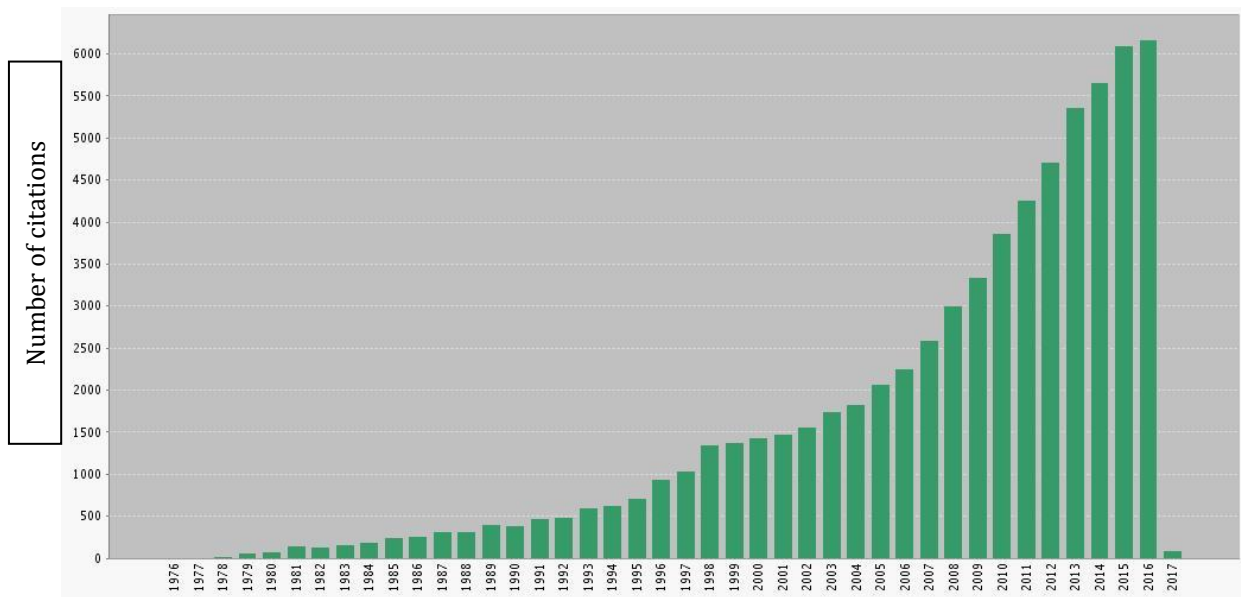


¹Compiled by staff at the Patrick Power Library.

- Thomson Reuters “Web of Knowledge” Database Citation Reports Publication Analysis (run on 12 Jan. 2017)



Total number of SMU publications by year (identified by postal code of authors).



Total number of papers published citing SMU publications by year.

6. Research Collaborations - Internal, regional (Atlantic), national and/or international

- **Interactive Atlas of Mi'kmaw Place Names to be Unveiled on Treaty Day** (28 September, 2015) The most complete geographical representation ever created of Mi'kma'ki—the land inhabited by the Mi'kmaq—will be available online on October 1, Treaty Day. The efforts of more than 100 people, spanning thousands of hours' worth of work, over more than five years, will come to fruition when Ta'n Weji-sqalia'tiek: Mi'kmaw Place Names Digital Atlas is unveiled, a Mi'kmaq-Nova Scotia-Canada Tripartite Forum initiated project developed in partnership between Confederacy of Mainland Mi'kmaq (CMM), Saint Mary's University's Office of Aboriginal and Northern Research, Mi'kma'ki All Points Services (MAPS), Parks Canada Agency (to 2011), and the Nova Scotia Museum, with support from Mi'kmaq Cultural Association (MACS) and Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO). Research was conducted, in part, by interns and youth researchers at Saint Mary's University. Between 2010 and 2014, 20 of these positions were funded for Mi'kmaw students, by SSHRC, the Mi'kmaq-Nova Scotia-Canada-Tripartite Forum, and Saint Mary's University, as well as a number of student grants offered through government agencies and Saint Mary's. Also see: <http://www.smu.ca/about/news/2015/mikmaw-place-names-.html>
- **MOU brings continued collaboration with the Mi'kmaw Nation** (19 October, 2015) On October 19, 2015, Dr. Robert Summerby-Murray, President of Saint Mary's University, and Dr. Trudy Sable, Director of the Office of Aboriginal and Northern Research at the Gorsebrook Research Institute for Atlantic Canada Studies, travelled to the Millbrook Cultural and Heritage Centre for the signing of a Memorandum of Understanding with the Confederacy of Mainland Mi'kmaq (CMM) and the Union of Nova Scotia Indians (UNSI), the two Tribal Councils representing all the bands in Nova Scotia. Dr. Don Julien, Executive Director of the CMM, and co-signer on the MOU, hosted the ceremony together with Tim Bernard, Director of History & Culture and at CMM. The MOU expressed our continued collaboration around the ongoing research and development of the recently launched, Ta'n Weji-sqalia'tiek: Mi'kmaw Place Names Digital Atlas & Website, and its transfer to the Mi'kmaw Nation. Also see: <http://www.smu.ca/about/news/2015/mikmaq-mou.html>
- **Saint Mary's University and partners are creating healthy workplaces** (22 August, 2016) A partnership project led by Dr. Arla Day from Saint Mary's University in Halifax to foster healthy workers and workplaces is one of 20 national projects awarded funding for the Healthy & Productive Workplace Partnership initiative through SSHRC and CIHR. Dr. Day's partnership, which includes universities, research centres, health institutions and employers from across Canada, are designing and testing programs to improve workers' well-being and work experiences, with a focus on supporting workers who are dealing with chronic physical and psychological demands. Along with experts in work, health, and wellness, Dr. Day is partnering with a number of employers and stakeholders, including Sun Life Financial, the Department of National Defence, Worker's Compensation Board Nova Scotia and the Nova Scotia Health Authority. The initial funding from SSHRC and CIHR will support the project for the first two years of research to develop an interdisciplinary research board, conduct an environmental scan of the physical and psychological health issues facing Canadian workers, identify healthy workplace best practices, and implement healthy workplace programs. Also see: <http://www.smu.ca/about/news/2016/saint-marys-university-and-partners-are-creating-healthy-workplaces-.html>

7. Research Environment

- **New and Renewed Canada Research Chairs at Saint Mary's** (10 February, 2016) Three Saint Mary's University faculty members have been named or renewed as 2016 Canada Research Chairs, the Government of Canada announced this week. Dr. Karly Kehoe was named the new Canada Research Chair in Atlantic Canada Communities. A Cape Breton native, Dr. Kehoe's work focuses on work on religion, migration and identity in the British Atlantic and on sustainable development in rural communities. She is also a Saint Mary alumna, having completed her undergraduate in 1999. Dr.

Najah Attig, Canada Research Chair in Finance and Dr. Kevin Kelloway, Canada Research Chair in Occupational Health Psychology both had their status as Canada Research Chairs renewed. Dr. Attig has been a Canada Research Chair since 2011 and Dr. Kelloway since 2008. In total, Saint Mary's has eight Canada Research Chairs, with representation from all three faculties. Also see:

<http://www.smu.ca/about/news/2016/new-and-renewed-canada-research-chairs-at-saint-marys.html>

- **Saint Mary's researchers receive over \$1.1M in NSERC grants** (23 June, 2016) Six Saint Mary's researchers will receive over \$1.1 million in funding from the Natural Sciences and Engineering Research Council of Canada (NSERC), as announced today at McMaster University in Hamilton, Ontario. This funding comes mainly from NSERC's Discovery Grants Program, which supports ongoing natural science and engineering research programs with long-term goals. Biologist Dr. Anne Dalziel will receive \$135,000 to research Mechanisms underlying the evolution of salinity tolerance in fish. Biologist Dr. Jeremy Lundholm will receive \$215,000 for his research on an ecological approach to green roof ecosystem functioning. Dr. Lundholm also received \$120,000 in Discovery Accelerator Supplements for his green roof research. Chemist Dr. Christa Brosseau will receive \$175,000 for her research into Innovative Plasmonic Platforms for Advanced Molecular Sensing. Chemist Dr. Jason Clyburne will receive \$175,000 for his research on the preparation, isolation, and characterization of fragile acid-base complexes including intermediates of potential biological relevance. Geologist Dr. Georgia Pe-Piper will receive \$145,000 for her research on Mineralogical and geochemical approaches to tectonic problems. Dr. Wang, an associate professor in Finance. He was awarded a Discovery Development Grant and will receive \$20,000 for his program on Conceptual Data Summarization for Business Analytics. Also see: <http://www.smu.ca/about/news/2016/2016-nserc-winners.html>
- **Saint Mary's joins consortium offering Masters in Applied Health Services Research** (28 July, 2016) Saint Mary's University has been approved by the Maritime Provinces Higher Education Commission to join a consortium of Atlantic Canadian universities offering a Masters in Applied Health Services Research (MAHSR) program. The interdisciplinary program is in collaboration with Memorial University, the University of Prince Edward Island and University of New Brunswick. The MAHSR program is completed over a two-year period and includes eight web-based courses, workshops, a residency and thesis research. Dr. Lucie Kocum, Saint Mary's Psychology Professor is the program coordinator at Saint Mary's. She says through the program students are trained by scholars of diverse disciplines and will acquire the necessary skills to investigate complex health systems. Funded by the Nova Scotia Health Research Foundation and in partnership with Maritime SPOR SUPPORT Unit, the MAHSR program comes at an important time in Nova Scotia, where this type of research could lead to improvements in the services provided by a health care system that faces many challenges now and in the future. Also see: <http://www.smu.ca/about/news/2016/smu-joins-consortium-offering-masters-in-applied-health-services-research.html>

8. Other Success Stories

- **Offering Green Guidance to the Government** (30 November, 2015) While the leaders of the free world prepared to meet in Paris for the United Nations Climate Change Conference, professors from the Saint Mary's School of Environment came together this week to deliver a public lecture on environmental priorities. Entitled Green Guidance: Advice for the New Government on Environmental Priorities; the lecture touched on a number of environmental issues the new Federal government should focus on. The lecture was organized by Dr. Tony Charles, the Director of the School of Environment. Dr. Charles also spoke at the lecture with his talk highlighting Canada's Oceans. Also speaking at the event were Saint Mary's professors Dr. Linda Campbell, Dr. Jason Clyburne, Dr. Jeremy Lundholm and Dr. Danika Van Proosdj. Their topics included environmental

contamination issues, a low carbon future, ecology of plants, and Canada's coasts and climate. Also see: <http://www.smu.ca/about/news/2015/offering-green-guidance.html>

- **Dr. Karly Kehoe elected to the Executive Committee of the Global Young Academy (GYA)** (10 June, 2016) Dr. Karly Kehoe, Canada Research Chair in Atlantic Canada Communities, was elected to the Executive Committee of the Global Young Academy (GYA) during its Annual General Meeting at Eindhoven in the Netherlands on May 29. The GYA is an international academy of leading young scientists from around the world. It embraces all disciplines, from humanities to natural sciences, and has 200 members from 54 countries. GYA members are among the most active in their fields and use collaborative and interdisciplinary research to benefit society. Dr. Kehoe was first appointed to the Academy in 2015. She currently leads the Landscapes and Lifescapes project, funded by the Royal Society of Edinburgh. The project brings together academics (historians, geographers and archaeologists), archivists, librarians and community researchers to explore the links between development in the historic Scottish Highlands and the Caribbean. Phase I was funded by the Royal Society of Edinburgh and focused on the Scottish Highlands; Phase II will incorporate the links that Scottish Highland and Irish diasporas in Atlantic Canada had with the Caribbean, and the economy that revolved around plantation slavery. Also see: <http://www.smu.ca/about/news/2016/kehoe-elected-to-the-executive-committee-of-the-global-young-academy-gya.html>
- **First data from Hitomi telescope reveal dynamics of hot cluster gas** (7 July, 2016) A paper examining some of the first data delivered by the ill-fated Hitomi X-ray telescope (formally called Astro-H) has been released. Hitomi was developed in collaboration with universities and research institutes from Japan and internationally including the NASA, Canadian Space Agency and Saint Mary's University. Dr. Luigi Gallo, a Saint Mary's astronomy and physics professor led the Canadian science team that worked on the project. Hitomi was launched by the Japan Aerospace Exploration Agency (JAXA) in February. Just over a month after the successful launch JAXA lost contact. Despite losing contact with the satellite early on in the mission, Dr. Gallo says there is still much to learn from the data that was recovered. Dr. Gallo also noted that the Canadian portion of the telescope, the Canadian ASTRO-H Metrology System (CAMS), performed above expectations. CAMS was built by Neptec Design Group, a Canadian spaceflight engineering company in partnership with the Canadian Space Agency. It is an innovative measurement system for Hitomi's hard x-ray telescope to assist in making unprecedented observations of phenomena such as black holes, supernova explosions, neutron stars and advance toward understanding how galaxies were formed. Also see: <http://www.smu.ca/about/news/2016/first-data-from-hitomi-telescope-reveal-dynamics-of-hot-cluster-gas.html>
- **Saint Mary's professor wins Young Scientist Award** (14 July, 2016) Dr. Jacob Hanley Dr. Jacob Hanley, Saint Mary's University Geology Professor has been honoured with the Young Scientist Award by the Mineralogical Association of Canada. This award is given to a young scientist who has made a significant international research contribution in a promising start to a scientific career. Dr. Hanley's focus since arriving at Saint Mary's in 2007 has been to develop a dedicated laboratory for characterizing rocks, minerals and fluids from strategic "green" metal deposits. Dr. Hanley says the goal is to use analytical techniques and field methods to understand how metal deposits form and develop criteria to help industry locate these deposits in remote parts of Canada. They will also ensure that any environmentally toxic metals are also recognized so mining companies can minimize the quantity of toxic metals that are brought to the surface. Dr. Hanley was presented with the award at the Mineralogical Association of Canada annual general meeting. He received a gold medal and a monetary prize that he donated back to the association to contribute to open student travel grants. Also see: <http://www.smu.ca/about/news/2016/saint-marys-professor-wins-young-scientist-award.html>

APPENDIX 1



Nova Scotia Graduate Scholarship (NSGS) Holders - 2016

Julianne Acker-Verney, MA in Women & Gender Studies: *Doing accessible & inclusive research with Nova Scotia women with disabilities.*

Khandker Ahmed, MSc in Applied Science: *Hybrid wind-solar energy system with battery storage.*

Vinod Bachhao, MSc in Applied Science: *Designing a control interface for renewable energy systems (solar and wind) using LabVIEW and national instruments equipment.*

Jordan Burke, MSc in Applied Science: *Improving exploration models for nickel-cobalt-silver-uranium deposits in Nova Scotia.*

Isabel Chavez, MSc in Applied Science: *Mid Cretaceous sand supply to offshore SW Nova Scotia: tectonic diversion of Labrador rivers during Naskapi Member deposition.*

Gurpreet Cheema, MSc in Astronomy: *Big data analytics for understanding how galaxies form and evolve.*

Alycia Damp, MSc in Applied Psychology: *The effects of conflict style fit on social and attitudinal outcomes.*

Beth Decoste, MSc in Applied Psychology: *Effects of leader deviant behaviour on employee trust and health and well-being (burnout).*

Diane LeBlanc, PhD in Industrial/Organization Psychology: *Workplace conflict among healthcare professionals.*

Brittany MacIsaac, MA in Geography: *Climate change adaptation strategies: Factors that influence likelihood of implementation success in Atlantic Canadian rural coastal communities.*

Aaron Manier, PhD in Industrial/Organization Psychology: *Mindfulness at work.*

Shawn McEachern, MA in Geography: *Regional Variation of Maritime Agricultural Land: 1981-2011.*

Nicole Morris, PhD in Business Administration: *Embedding Sustainability one Employee at a Time: Exploring the Impact of My Sustainability Plans in SMEs.*

Ulrick Mumburi, PhD in International Development Studies: *Is formalization of land rights a pro-poor policy for enhanced economic growth in Tanzania?*

Samantha Penney, PhD in Industrial/Organization Psychology: *Fostering healthy workplaces through leadership.*

Emily Peters, MSc in Applied Science: *Evaluation of the growth potential of Arundo donax grown on low-quality land in NS as a new sustainable biomass crop for biofuel production.*

Cara-Lynn Scheuer, PhD in Business Administration: *Exploring and alleviating the challenges of young workers/leaders in contemporary workplaces.*

Catherine Sedge, MSc in Applied Science: *Comparison of hydrothermal fluid evolution and its relationship to ore formation in the Altan Nar gold-silver (copper-lead-zinc) epithermal deposit, Southwest Mongolia with similar epithermal systems in the Coxheath Plutonic-Volcanic belt, NS, and development of exploration criteria.*

Leah Springate, MSc in Applied Science: *Genetic compatibility and reproductive success in the North Atlantic right whale.*

Aman Tanvir, MSc in Applied Science: *Doubly-fed induction generator based wind energy conversion system for clean, reliable, efficient and cost effective power generation.*

Shane Theunissen, PhD in International Development Studies: *Proposing a pragmatic, operationalizable model of indigenous education that would allow for endogenous cultural, and political, economic and social change while maintaining cultural visibility as defined by indigenous peoples.*

Annika Voltan, PhD in Business Administration: *Scaling Social Innovation in Nova Scotia's Local Food Economy.*

Emily Walker, MSc in Applied Science: *Ecology of native-planted green roofs: Bee diversity and pollen use; seedling interactions with environmental heterogeneity.*

Kristin Williams, PhD in Business Administration: *Exploring gender and leadership in the non-profit sector - Sustainability strategies.*

Carly Wrathall, MSc in Applied Science: *Facilitation of salt marsh community development on restored and developing sites.*

Tianyuan Yu, PhD in Business Administration: *Business and politics at the intersection of West and East: Pan Am and Republican China, 1933-1949.*

APPENDIX 2

-- NOT FOR CIRCULATION OUTSIDE OF SMU --

Key to eight "Comparator Universities." Universities were selected based upon their location (regional, central Canada, and western Canada) and their amount of externally sponsored research in 2003.

Univ #1	Acadia
Univ #2	STFX
Univ #3	CBU
Univ #4	Mount Allison
Univ #5	Moncton
Univ #6	UdQ Outaouais
Univ #7	UOIT
Univ #8	Winnipeg