

Annual Report on Research Activities at Saint Francis Xavier University – 2013-2014

**Compiled by Dr. Richard Isnor, Associate Vice President Research and Graduate Studies,
March 1, 2015**

This report was prepared to correspond with the template agreed upon by universities in Nova Scotia and the Department of Labour & Advanced Education, as of September of 2013. It is intended to report each January on the research activity of the previous year. For some areas, the reporting period is according to fiscal year (April 1, 2013 to March 31, 2014; e.g. funding statistics). In other areas, the reporting is according to academic year (September 1, 2013 to August 31, 2014; e.g. enrolments) or calendar year 2013 (e.g. publications). **Note:** This report contains data from years later than the reporting period in some instances, since it was prepared in early 2015 and later year's data was available.

Introduction

Research and outreach are fundamental to St. Francis Xavier's institutional role as a university and are recognized as one of the primary functions of the university's faculty. Research both informs and is intertwined with the university's role as an educational institution, and is an essential component of the university's commitment to service.

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

- To build and enhance an environment that supports scholarly research in its many different forms, and meaningfully engages students in research experience;
- To facilitate synergy and increase research collaboration by building and supporting research clusters that reflect research strengths and areas of growth;
- To increase the training opportunities and skills development of highly qualified personnel by ensuring opportunities for productive research involvement of undergraduate and graduate students, and post-doctoral fellows;
- To develop research and disseminate knowledge at the regional, national and international levels;
- To strengthen the physical and technological infrastructure that supports high quality research by accessing funding opportunities;
- To support faculty applying to external research granting agencies, and continue to develop services and infrastructure that supports knowledge transfer and exchange; and
- To monitor institutional progress in advancing the research profile of the University and celebrate the research achievements of faculty and students.

The six *Major Research Themes or Research Clusters* of the St. Francis Xavier SRP are:

- Culture and Human Development
- Energy, Natural Resources and the Environment
- Human Health and Wellness
- Humanities
- Leadership and Organizational Development
- Public Policy, Governance and Social Justice

Research Activities

1. *Research Highlights (maximum 3)*

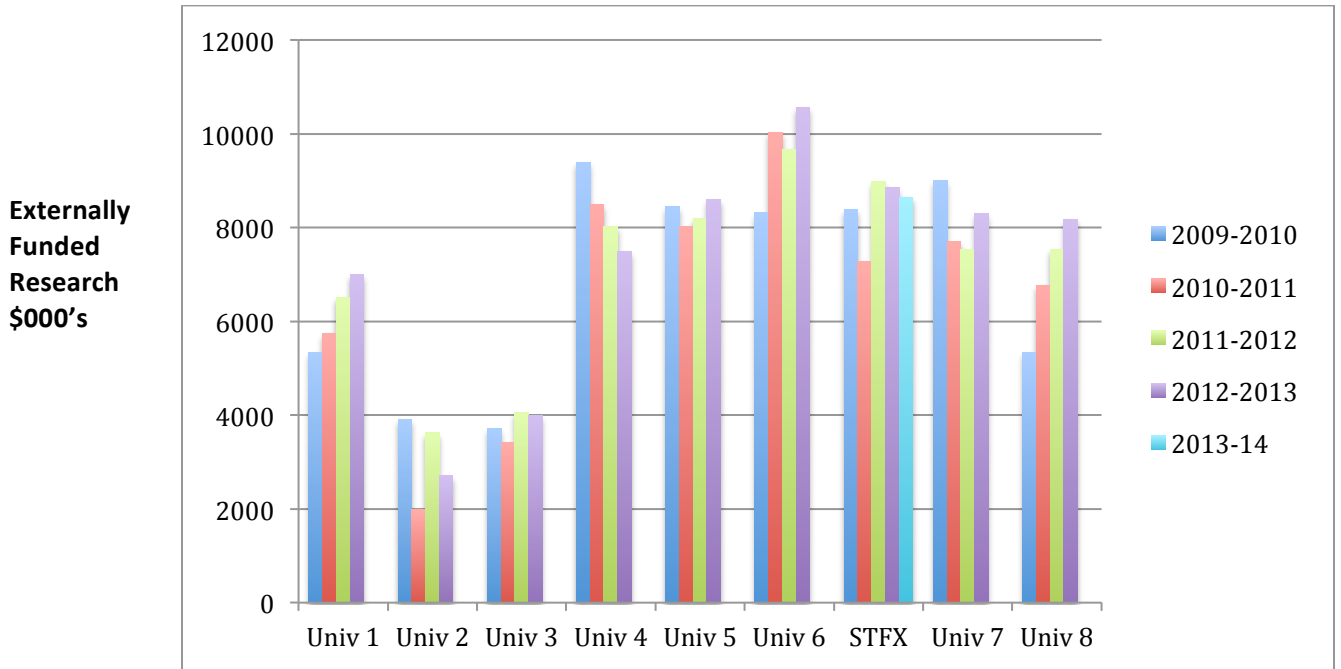
- **StFX researchers advance work on early childhood development.** StFX researchers, students and local health professionals have continued their groundbreaking research on early childhood development. A group of researchers who studied babies' first contact with mothers are now in the process of determining if those same babies, now six to eight years old, received long-term social cognitive and communication benefits. Three StFX researchers, in collaboration with Kids First Family Resource Program, recently received more than a quarter of a million dollars to follow up on their initial skin-to-skin research project. Dr. Ann Bigelow, a StFX Psychology professor, along with Human Nutrition professor Dr. Doris Gillis, Psychology professor Dr. Kim MacLean, and Michelle Ward, the executive director of Kids First, were awarded a \$269,000 Social Sciences and Humanities Research Council (SSHRC) Insight Grant to conduct this work. The skin-to-skin research work between mothers and their infants conducted by StFX professors, students, and community health professionals, was a first-of-its-kind study in Canada. More than one hundred mothers and their infants were followed until the babies were three months old. The results showed that by engaging in skin-to-skin contact with their babies, mothers provided health benefits to themselves, to their babies, and to the developing mother-infant relationship. A DVD called *'Enhancing Baby's First Relationship,'* was launched from the research. The team hopes to have evidence of long-term effects within the next two years.
- **Mining Google Trends could help predict recessions according to new research published by StFX Economics professor.** Economists and policy makers may be able to predict recessions sooner by analyzing Google Trends according to recent research published by StFX Economics professor Dr. Greg Tkacz in his latest paper *Predicting Recessions in Real-Time: Mining Google Trends and Electronic Payments Data for Clues.* It is the first paper from a Canadian researcher to look at Google data for economic prediction purposes, and the first anywhere to look at the specific issue of recessions. The research created significant media buzz. Just hours after the report's release, the story was picked up by the Canadian Press and appeared in *Maclean's*, the *Toronto Star*, and the *Huffington Post*, *Victoria Times-Colonist* and *Winnipeg Free Press*. Dr. Tkacz also spoke with a reporter from the Wall Street Journal's "Canada Real Time," which ran its own original story about the paper and published an op-ed on this topic in the *Globe and Mail*. In the report, Dr. Tkacz found a relationship between Google searches and economic activity when he looked at the 2008 recession. Knowing that many people are keying in search terms such as "recession" and "jobs" can give an indication of economic

changes as they're happening, he says, and the data can also help policy makers respond more quickly to these changes.

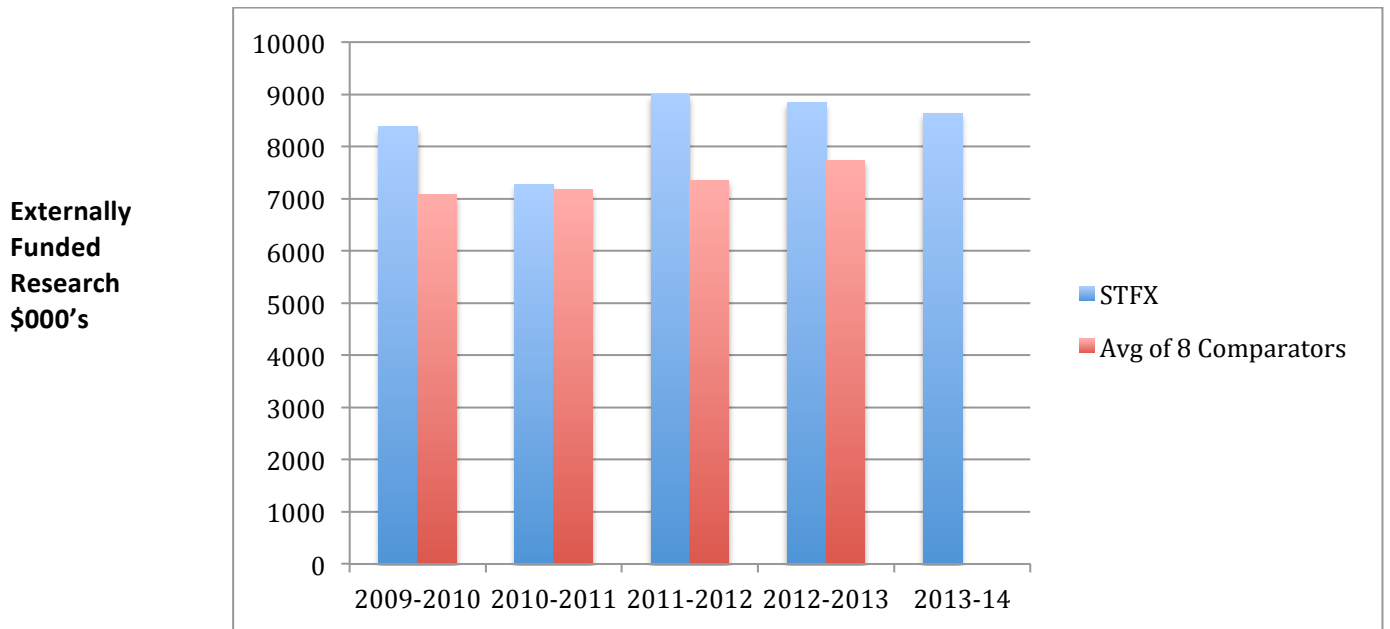
- **StFX undergraduate researchers dominate at regional science conferences.** 2013-14 was a year of significant achievement for StFX undergraduate student researchers and their faculty supervisor mentors. In March 2014, StFX hosted the Science Atlantic Environment Conference and was the best school represented in the oral sessions with seven research talks, three of which won awards or honourable mentions. Sarah MacLeod won the Science Atlantic Undergraduate Research Award for her presentation entitled *Uncertainty in Modeled Deforestation due to Albedo Variability*. Elizabeth O'Connell received an honourable mention for her Undergraduate Oral Presentation *Mapping Gas Variability for Energy Development Monitoring*. Six StFX human kinetics honours students presented their research projects at the Atlantic Provinces Exercise Science Plus (APES+) conference held at the Universite de Moncton in March 2014. Louise Chiasson received the top undergraduate award for her presentation entitled, *I am not a role model: Barkley is out, but what female athletes?* Gabriel Quenneville-Himbeault clinched second spot for his presentation, *A therapeutic skating intervention for children with autism spectrum disorder*. Two StFX honours biology students, Katy Grosicki and Laryssa Halat, won first and second prizes respectively for their oral presentations at the Science Atlantic Aquaculture & Fisheries and Biology Conference held in March 2014 at Mount Saint Vincent University. Ms. Grosicki, a fourth year student, won first prize in the undergraduate Aquaculture and Fisheries oral presentation category, as well as the People's Choice Award, for her presentation entitled, *Trying to stop invasive tunicates from overtaking mussel farms using goo from the dentist's office*. Ms. Halat, a third year student, received second prize for her presentation, *Epidermal cell shedding is an overlooked factor in rockweed (*Ascophyllum nodosum*) harvesting*. Siobhan Morris, a second year StFX physics student, won the ACEmat Award in Computational Modeling of Materials at the 2014 Atlantic Undergraduate Physics & Astronomy Conference (AUPAC) held at Saint Mary's University in early February, 2014. The award, sponsored by the ACENet Institute, is given for the best undergraduate presentation, oral or poster, using computational methods to study systems of interest to materials science. Finally, a team of five students from the StFX Gerald Schwartz School of Business placed first in Atlantic Canada in the recent Chartered Financial Analyst (CFA) Institute Research Challenge. Team members Kene Oguejiofor, Javier Ballve, Conner Cameron, Danshi Liu and Julia Spriggs competed against teams from Dalhousie University, Saint Mary's University, and the University of New Brunswick (some of which included MBA students) in Halifax in February 2014. The CFA Institute Research Challenge is an annual global competition that provides university students with real-world experience as they assume the role of a research analyst and are tested on their ability to value a stock, write an initiation-of-coverage report, and present their recommendations. It is a rigorous competition in which each team produces an initiation-of-coverage report on their assigned stock with a buy, sell, or hold recommendation and may be asked to present and defend their thesis to a panel of industry veterans.

2. Research Funding

a) **Total externally sponsored research at StFX relative to eight “comparator” Canadian Universities (2009-2013).** Comparator universities were selected based upon comparable levels of total external research funding in 2010 and/or regional considerations.

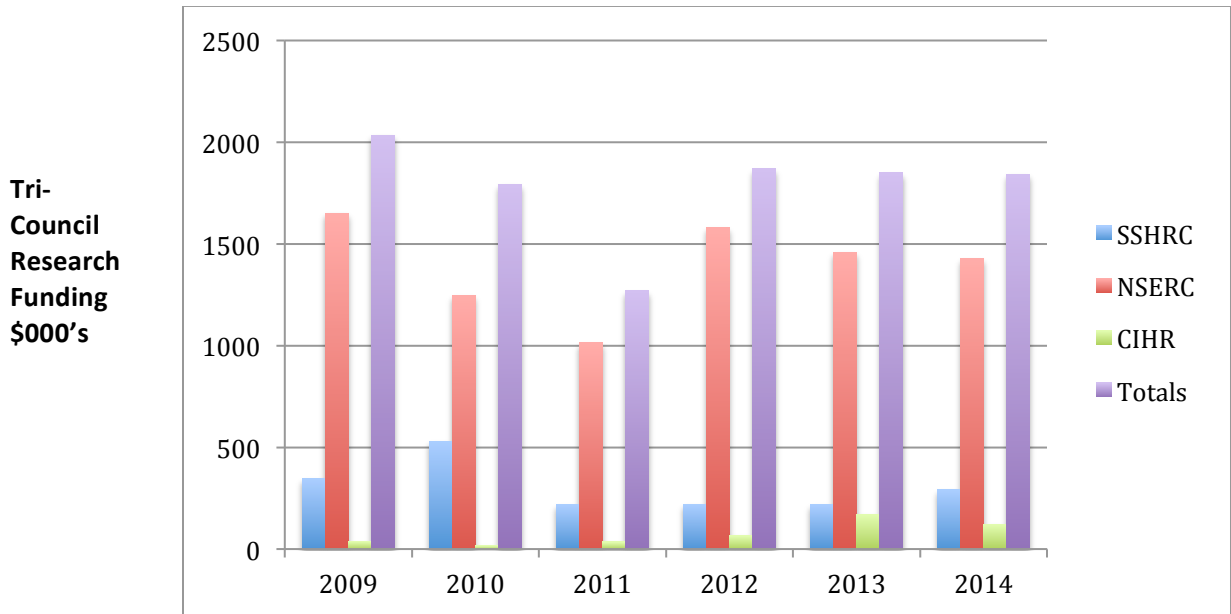


Source: CAUBO & StFX



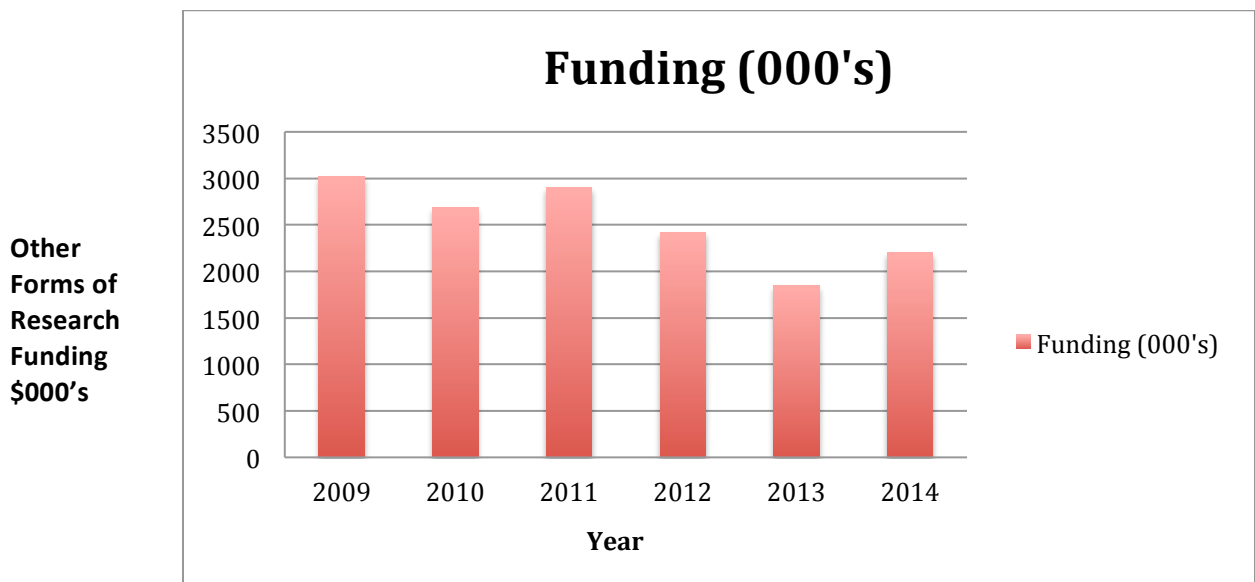
Source: CAUBO & StFX

b) Trends in Federal Tri-Council Funding at StFX (all values are 000's)



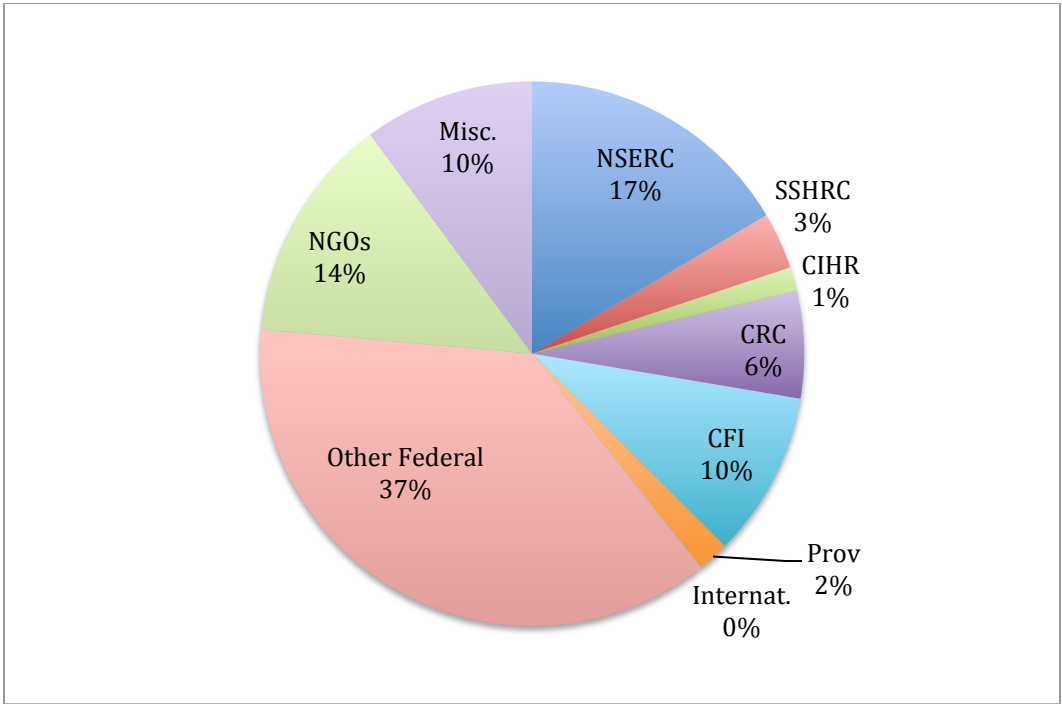
Source: CAUBO & StFX

c) Trends in Grant/Contract Funding from Other Sources Funding at StFX (e.g. Industry, NGO, Provincial, Government Depts) (all values are 000's)



Source: CAUBO

d) Key Sources of External Research Funding at STFX (2012-13)



Source: StFX submission to CAUBO

e) Research Universities of the Year (RUY) rankings: Research InfoSource (<http://www.researchinfosource.com/>) RUY rankings rate the top 50 Universities in Canada in terms of research impact relative to research funding. RUY rankings take into account both financial input and research output 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.

Year	2009	2010	2011	2012	2013	2014
STFX Rank	38	42	42	45	40	46

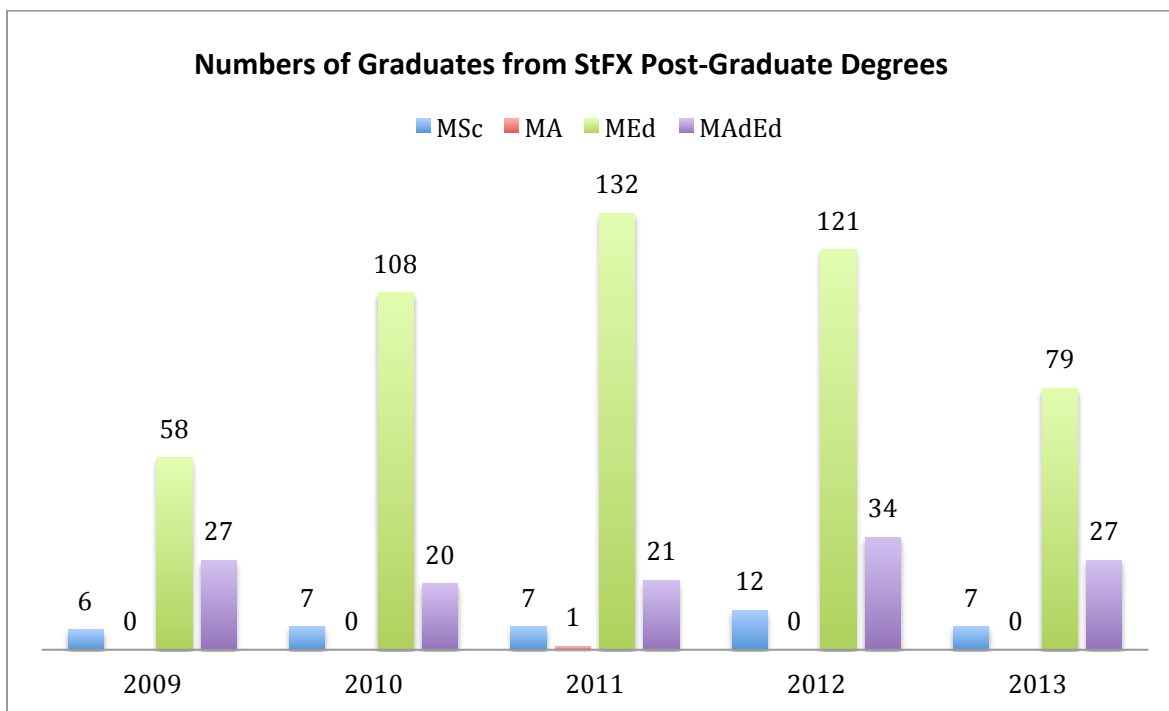
Research Universities of the Year (RUY): STFX Rankings for 2013-14

Externally sponsored research income	45
Research intensity (externally sponsored research \$/faculty member)	44
# of publications	45
Publication intensity (publications/faculty member)	46
Publication impact	44
Overall	46

Source: Research InfoSource

3. Highly Qualified Personnel (HQP) Training

StFX is primarily focused on undergraduate research training across its four faculties of Science, Arts, Business, and Education. It also offers 8 graduate studies programs, including 1 joint PhD program (in Education established in 2011 jointly with Acadia and MSVU), as well as Masters of Education & Adult Education, Masters of Science in Biology, Chemistry, Earth Sciences, Computer Science; and Masters of Arts in Celtic Studies.



- In 2013-14, STFX students were awarded 13 NSERC Undergraduate Student Research awards, as well as four NS Health Research Foundation Scotia Scholar awards. Six Irving Research Mentorship awards at a value of \$6000 were also awarded to StFX students.
- Service Learning is an important element of the StFX training and education experience. Many Service Learning experiences involve research-oriented activities and projects. In the 2013 academic year, StFX provided 833 undergraduate Service Learning experiences, including 49 involving International Students.
- **NSERC André Hamer Prize honours 2013 graduate as one of the most outstanding scholarship candidates.** Christopher van Bommel, a 2013 StFX honours Math graduate, has been recognized as one of the most outstanding candidates in the Natural Sciences and Engineering Research Council of Canada (NSERC)'s master's and doctoral scholarship competitions. Mr. van Bommel was one of five recipients of the prestigious NSERC André Hamer Postgraduate Prizes, valued at \$10,000 each. Mr. van Bommel is currently a master's student at the University of Victoria. Mr. van Bommel also received the prestigious \$25,000 Julie Payette-NSERC Research Scholarship awarded to only 24 recipients across Canada. Winners must not only display a first-class academic average,

but should also demonstrate outstanding research ability and potential, excellent leadership skills and a broad range of outside interests.

- **2012 English graduate receives prestigious \$105,000 doctoral scholarship from SSHRC.** Amanda Daignault, a 2012 StFX honours English graduate, received a prestigious doctoral Joseph-Armand Bombardier Canada Graduate Scholarship (CGSD) worth \$105,000 over three years from the Social Sciences and Humanities Research Council of Canada (SSHRC). Daignault is currently completing graduate studies in the Department of English and Film Studies at the University of Alberta. She graduated from StFX with an honours Bachelor of Arts degree in English with a philosophy subsidiary. Ms. Daignault's doctoral work will be in the field of children's literature, and more specifically, contemporary fantasy novels for middle-grade readers.
- **StFX master's student nets \$42,000 NSERC Industrial Postgraduate Scholarship.** Natalia Filip, a StFX master's Biology student who is part of StFX's Centre for Biofouling Research, has received a \$42,000 NSERC Industrial Postgraduate Scholarship (\$21,000/yr over 2 years). The Aquaculture Association of Nova Scotia and the PEI Aquaculture Alliance are also funding the scholarship. She is researching the invasive sea squirt *Ciona intestinalis*, a major fouling organism around the world. In local waters, they have established themselves as the primary fouling organism on mussel farms and are being carefully monitored by the federal Department of Fisheries and Oceans.
- **StFX grad Travis McCarron receives \$105,000 award to complete PhD.** Travis McCarron, who graduated from StFX with first class honours in Earth Sciences in 2011, received a \$105,000 Alexander Graham Bell Canada Graduate Scholarship in 2014 from the Natural Sciences and Research Engineering Council of Canada (NSERC) to complete his PhD. Mr. McCarron, of North Grant, NS, who completed his master's of science degree in Earth Sciences at Carleton University, will use the Alexander Graham Bell Scholarship to study atomic scale processes in minerals and how researchers can use minerals to better understand the formation and evolution of modern and ancient mountain belts.
- **StFX Honours Biology graduate receives prestigious \$105,000 doctoral scholarship.** Norah Brown, a 2011 StFX honours biology graduate, received a prestigious \$105,000 Alexander Graham Bell Canada Graduate Scholarship from the Natural Sciences and Engineering Research Council of Canada (NSERC) in 2014 to complete her doctoral program in Marine Ecology at the University of British Columbia. Ms. Brown, of Antigonish, NS, receives \$35,000 per year for three years. Ms. Brown started in the masters program at UBC in January 2012, with the support of an NSERC masters scholarship. She is now in the process of transferring to the PhD program, under the same project and supervisor, Dr. Chris Harley. She recently spent a semester in the United Kingdom and Italy on another NSERC-funded supplement, the Michael Smith Foreign Study Supplement, which she received as an add-on to her masters NSERC from 2012.
- **Irving Mentorship Program gives StFX students invaluable research experience.** Six StFX students were provided with the invaluable opportunity to conduct research in 2014 thanks to the newly established Irving Mentorship Program at StFX. The Irving

Mentorship Program, which is part of the McKenna Centre for Leadership at StFX, provides awards funding for summer research, allowing students from a variety of disciplines to work under the guidance of a StFX faculty member. The students not only benefit from hands-on experiential learning and a personalized education, they gain valuable career experience. The endowment is having significant impact. One of the six students supported in 2014 was Graham Haynes from the Schwartz School of Business. His research resulted in a paper, *Ontological Politics at the Nova Scotia Museum of Industry*, which was accepted for presentation and proceedings at the 43rd annual Atlantic Schools of Business Conference, attended mainly by academics with PhDs, PhD and MBA students.

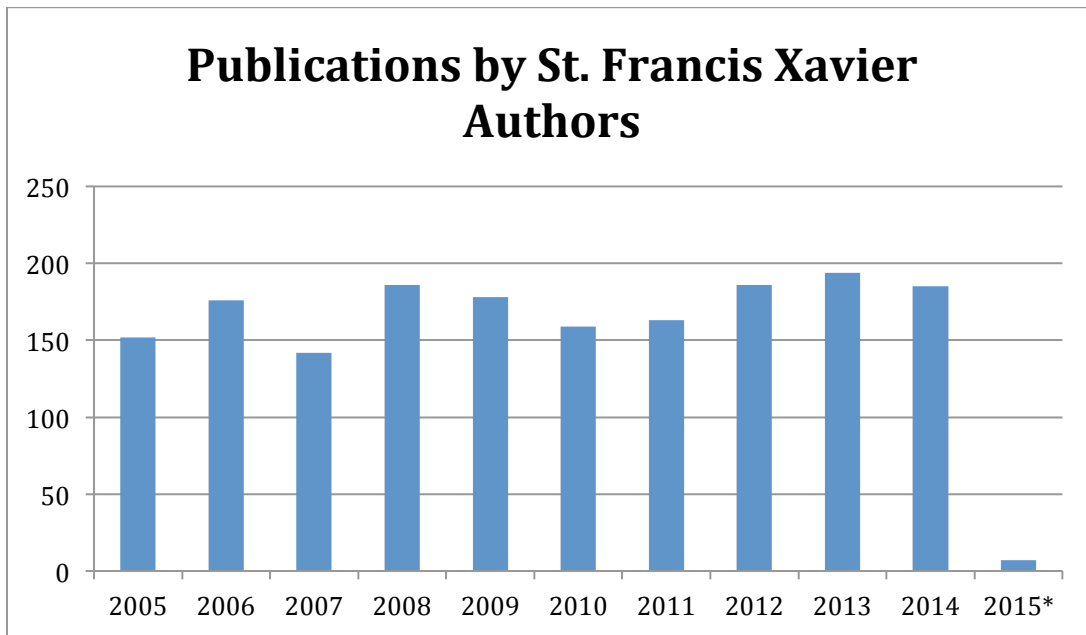
- **StFX Masters student headed on international biological expedition to Antarctica.** Chris MacIntyre, a StFX master's student in Earth Sciences, has been invited to join a team of researchers in Antarctica investigating soil biological activity in the extremes of the earth. The expedition is led by the International Centre for Terrestrial Antarctic Research in New Zealand, and is aimed at developing additional depth in its biological survey activities. The trip is an extension of a project that started three years ago between Mr. MacIntyre's supervisor, StFX Earth Sciences professor Dr. Dave Risk, and the Centre for Antarctic Research. Mr. MacIntyre, who earned his undergraduate degree from StFX and is now a master's student working on gas sensor development in Dr. Risk's Flux Lab, is preparing to take down a new instrument, and an array of equipment for soil sampling. Samples of Antarctic soil air will be brought back to Antigonish for analysis.
- **StFX graduate honoured with prestigious Polanyi Prize.** Dr. Patrick Clancy, a 2004 StFX Physics graduate, has won the 2013 Polanyi Prize, named in honour of the achievement of John Charles Polanyi, recipient of the 1986 Nobel Prize in Chemistry. The Government of the Province of Ontario established this fund to provide annually up to five prizes to outstanding researchers in the early stages of their career who are continuing to post-doctoral studies or have recently started a faculty appointment at an Ontario university. In 2014, the prizes have a value of \$20,000 each and are available in the areas broadly defined as physics, chemistry, physiology or medicine, literature, and economic science. Dr. Clancy is currently a postdoctoral fellow in the University of Toronto's physics department, whose research involves the study of novel quantum materials using advanced x-ray and neutron scattering techniques. He has published articles on a variety of topics, including low-dimensional magnetism, geometric frustration, and high temperature superconductivity.

4. Industry Engagement (Springboard Atlantic Inc. performance indicators) 2013-14

1. Total Research Revenues (Annual)	7,500,000
2. Industry Engagement Activity	15
Total IRAP NMA Projects: (#)	4
IRAP DTAPP Projects (#)	0
Tri-Council Industry Partnerships (#)	4
-Interaction - #	0
-Engage - #	1
-IE(CCI), ARD - #	0
-ARTi #	0
-CRD - #	0
Other	2
Industry Partnership Scholarships (IPS, I-USRA, IRDF) - (#)	1
-CIHR POP - #	0
-SSHRC Partnerships (industry only)- #	0
Provincial Funds (Industry Project related):	
# of projects	3
\$ raised for those projects	45000
Industry R&D Contracts (no sponsored funding) - (#)	4
Leases - Lab or incubation - (#)	0
Funds from industry contracts - (\$)	21200
Admin Overhead generated - (\$)	0
Industry Internships generated by ILOs/TTOs - (#)	0
3. Workshops with Industry (#):	
Number of Workshops: (#)	3
4. ACOA AIF Projects:	
Number of AIF Projects Leading: (#)	0
Number of AIF Projects as Subcontract: (#)	0
Industry Funds leveraged: (\$)	0
Total Project Dollars: (\$)	0
5. Technology Transfer:	
Number of Tech Transfer Agreements: (#)	2
Revenues from Assignment, Option, Licensing and Royalty Agreements - \$	1679.31
New Spin Off Companies: (#)	0

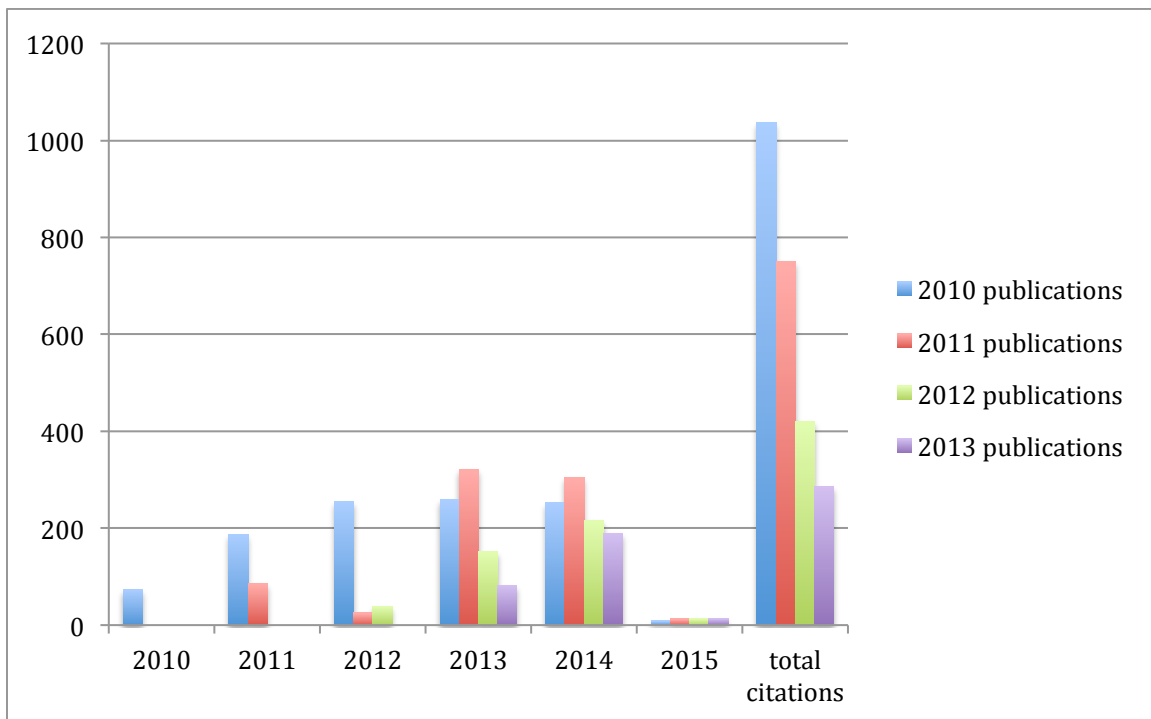
5. Knowledge Creation and Mobilization highlights- (includes publications)

Publication trends by authors from StFX as tracked by Web of Knowledge



Source: *Web of Knowledge Database*

Trends in number of citations of publications produced by StFX authors as tracked by Web of Knowledge



Source: *Web of Knowledge Database*

StFX Publications Tracked by Web of Knowledge, Scholarly Output by Type

	Article	Book Review	Editorial Material	Proceedings paper	Meeting Abstract	Review
2010 publications	117	14	10	7	5	2
2011 publications	127	13	5	8	2	2
2012 publications	132	25	9	6	2	4
2013 publications	129	18	17	8	12	5
2014 publications	143	19	10	2	4	2

Source: *Web of Knowledge Database*

Highlights:

- StFX faculty launch significant scholarly work on early feminism.** Two StFX faculty members have celebrated a book launch of scholarly achievement that touches on feminism in the nineteenth and early twentieth centuries and a generation of activists pivotal in creating international women’s day. History professor Dr. Nancy Forestell and English professor Dr. Maureen Moynagh have provided a valuable resource for studying women’s rights in an increasingly global world with the publication of the two-volume *Documenting First Wave Feminisms*, published by University of Toronto Press in 2012 and 2013. A book launch celebrating the achievement was held on March 8, 2014— International Women’s Day. These two volumes, *Documenting First Wave Feminisms. Volume I: Transnational Collaborations and Crosscurrents, and Volume II: Canada— National and Transnational Contexts*, mark significant contributions to the history of feminist movements in Canada and transnationally. By making available both classic and little-known pieces and placing them in a sound historical context, this anthology adds significantly to the sources on women's transnational connections and makes an important contribution to scholarship. Although it’s their first publication together, Dr. Moynagh and Forestell’s collaboration stretches back many years. Both professors arrived at StFX in 1994, and in 1995 began collaborating together with StFX anthropology professor Dr. Clare Fawcett to create StFX’s Women’s and Gender Studies program. Drs. Forestell and Moynagh were the first two instructors in that program. Both credit their ongoing interdisciplinary research collaboration as a collective benefit to the project. Both are also using the volumes in the classroom.
- Getting a read on Shakespeare’s influences: StFX English professor Dr. Joseph Khoury offers insights in a new book.** StFX English professor Dr. Joseph Khoury, a Shakespearean scholar at StFX, has recently published a critical edition of *The Adventures of Brusanus, Prince of Hungaria* (1592) by Barnabe Riche, a romance he says Shakespeare used as a source for *Measure for Measure* along with some of his other

plays. The book was published by the Centre for Reformation and Renaissance Studies, Victoria University at the University of Toronto.

- **Book launch celebrates StFX French professor Dr. Edward Langille's latest work.** In 2014, the StFX Faculty of Arts celebrated the publication of StFX French professor Dr. Edward Langille's critical edition of Pierre-Antoine de La Place's 18th century French translation of *The History of Tom Jones* by Henry Fielding. Classiques Garnier, a top Parisian publishing house, one of the oldest in France, has published the 670 page critical edition prepared by Dr. Langille. When published in 1749, Fielding's *The History of Tom Jones a Foundling* created quite a sensation. It was a great bestseller in its day and influenced European literature. A year later, La Place translated the novel into French. *L'Enfant trouvé*, which enjoyed huge popular success, and is seen as a likely source for Voltaire's 1759 masterpiece *Candide*. Dr. Langille has shown that the early French translation, and not the original English work, was the basis for the Tom Jones's translation into almost all other European languages. Fielding was known in Europe through the mediation of French translations.
- **Senior Research Professor Dr. Paul Phillips publishes new book, *Contesting the Moral High Ground*.** Dr. Paul T. Phillips, a Senior Research Professor of History at StFX, has published his latest book, *Contesting the Moral High Ground: Popular Moralists in Mid-Twentieth-Century Britain* with McGill-Queen's University Press. The volume is part of the McGill-Queen's Studies in the History of Religion Series. Described as "a significant contribution to British intellectual history," *Contesting the Moral High Ground* provides new insights into the moral philosophies of four of Britain's most influential minds in the twentieth century, Julian Huxley, Bertrand Russell, Malcolm Muggeridge, and Barbara Ward, intellectuals who held sway over popular conceptions of morality. In *Contesting the Moral High Ground*, Dr. Phillips shows how the four – all well-known national and worldwide figures – achieved considerable public attention, particularly during the turbulent 1960s, pitching new ideas in a new way and becoming the first wave of public intellectuals to effectively use the modern media – newspapers, radio, television – to disseminate ideas on prevailing social issues, from justice to the protection of the environment, he says.
- **StFX Biology professor Dr. David Garbary celebrates significant milestone with 200th academic publication.** StFX biology professor and marine botanist Dr. David Garbary celebrated a significant career milestone recently with his 200th academic publication (which coincided with his 30th year of teaching at StFX). The 200th publication, "*Drastic decline of an extensive eel grass bed in Nova Scotia due to the activity of the invasive green crab*" appeared as the feature article in the January issue of the journal, *Marine Biology*, and was co-authored with current and retired StFX colleagues, Drs. Jim Williams, Tony Miller, and Norm Seymour. The journal editor also featured the research in an editorial that looks at the work and why it is so important. Within the last six years alone, Dr. Garbary has co-authored papers with 11 members of his own department. During that time, he also co-authored another 20 papers with his honours students and summer research assistants. Dr. Garbary has been supported by NSERC throughout his career. Over the years, he has had 50 honours students and eight master's students.
- **Rockweed harvesting thesis research results in leading journal publication for StFX**

- master's student.** Research work of StFX master's of science student Courtney Watt, supervised by Dr. Ricardo Scrosati (Canada Research Chair in Marine Ecology) has been published as an article in the worldwide leading journal about marine ecology, *Marine Ecology Progress Series*. Ms. Watt's thesis investigated the effects that rockweed harvesting has on the biodiversity of the area's rocky shores. Rockweed is a major economic natural resource in Atlantic Canada and, given that it is a large and abundant macroalga, it influences the area's coastal biodiversity. Her research will be relevant to designing conservation strategies related to the exploitation of this valuable commercial marine resource. Ms. Watt is now a PhD student at the University of Manitoba, where she is investigating pelagic food webs in the Canadian Arctic.
- **StFX Education professor Dr. Daniel Robinson publishes new book to support teaching of physical education.** Dr. Robinson's new book *Teaching Physical Education Today* was launched at the 2014 Physical and Health Education Canada National Conference in Winnipeg, MB. The book serves as a core textbook for teaching programs across the country. It will also be a reference for working teachers who want to deliver lively instruction to their students. His text provides educators and prospective teachers with a deeper understanding of education theory and the practical aspects of delivering an effective health and physical education program at both the elementary and secondary levels. It's been called an invaluable resource for both new and experienced health and physical education teachers alike.
 - **StFX History professor Dr. Samuel Kalman releases important new book on colonial fascism in Algeria.** StFX History professor Dr. Samuel Kalman has provided an important key to understanding a pivotal period in Algerian history in his latest book, *French Colonial Fascism: The Extreme Right in Algeria, 1919-1939* (Palgrave, 2013). In his work, Dr. Kalman looks at the political and social realities of European settlers in Algeria in the early 20th century who, alarmed by a growing Muslim population and the perceived weakness of metropolitan French authorities, increasingly turned to fascism in order to seize power. Dr. Kalman believes that understanding this movement also helps to explain the violent anti-Muslim and pro-settler sentiments that fuelled the bloody and lengthy Algerian War from 1954-1962, a turning point in the history of European decolonization and contemporary French history.
 - **StFX grads team up to write and illustrate a Canadian Geographic story, which features research of a StFX professor.** *The value of rockweed*, a story on the debate of rockweed harvesting appeared in the July/August 2013 issue of *Canadian Geographic* magazine. The article (<http://canadiangeographic.ca/magazine/ja13/seaweed.asp>) was written by StFX graduate Jimmy Thomson and illustrated by a second StFX graduate, Marissa Webber. It features the research of StFX Biology professor Dr. David Garbary. Mr. Thomson, who was working on his master's at UBC Graduate School of Journalism, decided to write the article while interning at *Canadian Geographic*.

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

- **Broch Collective receives research funding from StFX's Centre for Regional Studies.** A recently established research group at StFX that aims to explore a neglected aspect of regional heritage has received support through the StFX's Centre for Regional Studies. The Broch Collective aims to shed light on the socio-cultural dimensions of death and dying among nineteenth-century Scots in Nova Scotia and Prince Edward Island. Taking an interdisciplinary approach to its research, the collective draws on the expertise of Dr. Laurie Stanley-Blackwell, Department of History, Dr. Brenda Appleby, Department of Religious Studies, Dr. Dan MacInnes, Department of Sociology, Dr. Mikael Haller, Chair of Anthropology, Dr. Michael Linkletter, Chair of Celtic Studies, Shamus MacDonald, Department of Celtic Studies, and Susan Cameron, Special Collections Librarian at the Father Brewer Celtic Collection. Financial support from the Social Sciences and Humanities Research Council of Canada (SSHRC) funded centre, in the form of a \$5,000 grant, allowed the Collective to organize and host a research conference in June 2014. Designed to foster collaborative, interdisciplinary research networks within Nova Scotia, the symposium brought together key stakeholders in order to explore how cemeteries can be used to study cultural value systems, individual and group identities, settlement patterns, economic prosperity, and commemoration behavior. The conference also featured workshops on cemetery preservation and protection as well as twenty-first century restoration technologies.
- **StFX Biology professors awarded \$160,000 DFO grant to investigate biofouling affecting mussel farms.** An invasive sea squirt causing problems with mussel farms locally and around the world has come under the scope of StFX biology professors. Drs. Cory Bishop and Russell Wyeth, along with two colleagues from Fisheries and Oceans Canada (DFO), were recently awarded a major two-year \$160,000 research grant to investigate the distribution of these infestations. Funding for the research comes from the Aquaculture Collaborative Research and Development Program (ACRDP), a DFO initiative to increase collaborative research and development activity between the aquaculture industry and the department. Dr. Bishop and Dr. Wyeth, who are members of StFX's Centre for Biofouling Research will be looking at a sea squirt called *Ciona intestinalis*, a major fouling organism around the world. In local waters, they have established themselves as the primary fouling organism on mussel farms and are being carefully monitored by DFO. Through this research they hope to understand which areas in the province will be more susceptible to fouling by this creature. In turn, this may help them predict which sites to avoid for future mussel farms and which sites might need to be shut down.
- **StFX researchers hope to shed light on entrepreneurship among Aboriginal women.** Researchers from the Gerald Schwartz School of Business and the Coady International Institute at St. Francis Xavier University have launched a new research initiative, 'Entrepreneurship among First Nations Women in the Atlantic Region', designed to better understand entrepreneurship among Aboriginal women and to build indigenous research capacity. The two stage research project will involve gathering baseline data to document the prevalence of entrepreneurship, the level of interest in engaging in the entrepreneurial process, and the factors enabling and constraining engagement. The

Atlantic Aboriginal Economic Development Integrated Research Program (AAEDIRP) of the Atlantic Policy Congress of First Nation Chiefs is funding the research project.

- **Innovative fiber optic research at StFX attracts Encana funding.** StFX Earth Sciences professor Dr. David Risk, has received \$100,000 over 2 years from Encana Ltd. as part of the Deep Panuke research initiative in order to develop technologies that can help detect dissolved natural gas near the seafloor. The aim of the research is to develop a method of detecting gas leaks from remote sub-sea pipelines in real-time using fiber optics research.

7. Research Environment Highlights

- **New Research Infrastructure for Micronutrient Assessment.** StFX Human Nutrition professor Dr. Jen Jamieson received a \$78,423 grant from Canada Foundation for Innovation (CFI) in 2013-14, as well as matching funding from the NS Research and Innovation Trust (NSRIT) to further strengthen her Micronutrient Assessment Laboratory. The award is part of the Leaders' Opportunity Fund. Dr. Jamieson will use the funding for infrastructure to support her research program investigating iron status assessment with a focus on novel methods of biochemical and dietary assessment in special populations with varying iron requirements. The major pieces of equipment she will purchase will include a clinical hematological autoanalyzer and a microplate spectrophotometer. The equipment will improve her ability to study the relationship between iron intake and iron status in health and disease. Iron deficiency is also a common outcome of inflammatory diseases, impacting disease management, prognosis and growth in children.

8. Other success stories

- **StFX Education professor Dr. Robert White has received a prestigious international Critics' Choice Award for his work in qualitative research.** Dr. White and his colleague, Dr. Karyn Cooper of OISE/UT, have been recognized with the American Educational Studies Association (AESA) Critic's Choice Book Award for 2013 for their work, *Qualitative Research in the Postmodern Era: Contexts of Qualitative Research*. The award recognizes recent scholarship deemed to be outstanding in its field and of potential interest to association members. Each year, a committee of AESA members selects titles it regards as outstanding books of interest to those in educational studies. These books are displayed prominently at the annual AESA meeting, which took place in Baltimore in October 2014.
- **StFX Education professor Dr. Katarin MacLeod receives national science education award for doctoral thesis.** A StFX Education professor dedicated to making physics education more accessible to all students has been recognized with a national award in science education. Dr. Katarin MacLeod was the 2013 Science Education Research Group's SERG Dissertation/ Thesis Award for the best doctoral dissertation or master's thesis on science education in Canada. As part of this recognition, she presented her paper at the SERG/Canadian Society for the Study of Education 2013 conference in Victoria, BC. Dr. MacLeod's doctoral thesis, *Integrating Science, Technology, Society and Environment (STSE) into physics teacher education: Pre-service teachers' perceptions*

and challenges, completed at the Ontario Institute for Studies in Education at the University of Toronto, examines pre-service physics teachers' beliefs and challenges which influence their adoption of these STSE outcomes.

- **StFX Chemistry professor honoured for excellence, leadership in providing hands-on science opportunities for youth.** Actua, a registered charity with 20 years experience providing hands-on, interactive education experiences in science, engineering, technology, and mathematics (STEM) to Canadian youth, has recognized StFX Chemistry professor Dr. Truis Smith-Palmer for her leadership and excellence in a director position at X-Chem Outreach for over five years. It's been 20 years since Actua first incorporated and members began working together to build a network and a national impact. The certificate recognizes the hard work of the directors and member programs who have been with Actua over the long term and who have shown leadership and have demonstrated excellence in STEM education outreach with their program.