

Statistics and Actuarial Science

Simon Fraser University

On Top of Burnaby Mountain

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[Welcome]

Welcome to the 2014 edition of our departmental newsletter now named 'A Posteriori Update'.

Our department continues to be among the leading departments for Statistics and Actuarial Science in Canada. Inside you will find information on department events that have taken place in 2012, 2013 and part of the 2014. We hope this helps you maintain connections with the department.

Facebook group:

<https://www.facebook.com/pages/SFU-Department-of-Statistics-and-Actuarial-Science/104222189609838>

LinkedIn:

<http://ca.linkedin.com/groups?gid=4342867>

[A Word from the Chair]

This will be my last note for our newsletter as chair of the Department of Statistics and Actuarial Science. We are fortunate indeed that Tom Loughin will take over as of 1 September 2014. I look forward to having an engaged, active, passionate chair who wants to keep us moving.

Personnel changes continue in our department. We were lucky to be able to attract Jiguo Cao back from Western University and to find a way to hire Liangliang Wang away from Western. We have high hopes for more hiring in the near future, adding an Actuary and trying to build strength in the field of "Big Data".

The department underwent an external review in the Spring semester of 2013 but the process was much longer than that, taking up much of our attention throughout the whole 2012 and 2013 academic years and continued into the fall of 2013. An external review brings a committee of three senior academics (John Stufken from Georgia, Sheldon Lin from the University of Toronto, and Jane Pendergast from the University of Iowa) to spend time in our department studying how we work and reporting to the university on our strengths and weaknesses. Before that three day visit could take place though, we had to put together a 165 page "self-study" document. Creating this document is, in itself, a very useful part of the process because we had to reflect collectively on the future of our professions and of our department.

The final report of the committee is public as is the resulting action plan:

<http://www.stat.sfu.ca/content/dam/sfu/stat/documents/External%20Review%20-%20Action%20Plan.pdf>

Please let me know if you would like to see any of this; I can point you in the right direction. We have a lot to do but I can say we have already started.

We are now well in to our revised undergraduate program with a new focus on statistical computing. We have also launched a very much revised minor program which is attracting a lot of attention from students majoring in other disciplines who want a much stronger applied quantitative background. Our revised graduate program is rolling along -- again a strengthened focus on computation. All these changes have been accompanied by vigorous growth in enrollments which is important to us in the modern budget environment.

The Department is thus in very good shape. To finish off I want to take this opportunity to remind you that we have an on-line presence which we encourage you to join and participate in. Our Facebook group is at:

<http://www.facebook.com/pages/Burnaby-BC/SFU-Department-of-Statistics-and-Actuarial-Science/104222189609838>

LinkedIn:

<http://ca.linkedin.com/groups?gid=4342867>

The LinkedIn group in particular has had some very useful professional discussions. Have a look!



[A Word from the Graduate Studies Program]

As Graduate Chair of the Department of Statistics and Actuarial Science, I am happy to report that our graduate program continues to flourish. We have roughly 40 students enrolled in graduate studies, with approximately two-thirds in the MSc program and one-third in the PhD program.

With 186 applications to our graduate program in 2014, we will be welcoming 17 new students in September. They are truly an international cohort, with representation from Canada, the United States, China, Sri Lanka and Iran.

Speaking of Sri Lanka, our current group of five Sri Lankan graduate students were elated when Sri Lanka won the World Cup of Twenty20 cricket in April (photo below).

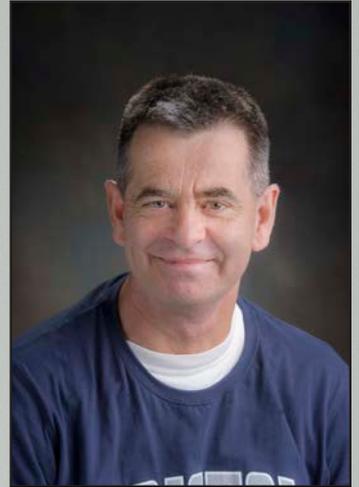
For our graduate alumni, you may be interested in taking a look at our current offerings of graduate courses. The graduate courses have been expanded and revamped to give our students state-of-the-art training in the statistical and actuarial sciences.

Our graduate students continue to play hard and work hard. Apart from some of the social activities that have been organized this year (e.g. ice skating, curling, bowling, poker nights, laser tag, dragon boating), some of our students have organized SAS training sessions and certification to help them in the workplace.

I remember fondly many of the graduate students who have completed their degrees in our department and I look forward to some very good years with our current crop of graduate students.

Sincerely,

Tim Swartz
Professor & Grad Chair



[A Word from the Department Manager]

You may have noticed that the visual appearance of the departmental website has changed after we switched to the CLF, the Common Look and Feel, SFU's Brand Requirement for print and web communications. This also makes our website more mobile device friendly.

Our courses and programs continue to attract more and more students. For example, the total number of students approved in our undergraduate programs has increased by 12% in the period between the spring 2012 and the spring 2013 semesters and by 18% between the spring 2013 and the spring 2014 semesters.

The number of students taking courses offered by the Department of Statistics and Actuarial Science has also increased and in the spring of 2014 for the first time it exceeded 2000, peaking at 2107.

More students graduated from our department in spring 2014 than in the whole QW2011/2012 academic year.

The department, and particularly our graduate students, have greatly benefited from the expansion into the new space, room P9309, formerly used by the Office of the Dean of Science. Nevertheless, office space remains a big challenge for our department.

On May 29, the University hosted an Information Evening where our department was represented. Please check this link for more information: <http://www.sfu.ca/content/sfu/students/events/infoevening.html>

On June 11, the department hosted our annual Graduands/Awards reception. This opportunity to celebrate the achievements of the members of our department was a great success. For the list of those being recognized and to see our photos have a look at: <http://www.stat.sfu.ca/news/departmental-reception-june-2014.html>

SFU will celebrate its 50th birthday in 2015. For more information please visit: <http://www.sfu.ca/sfunews/stories/2013/sfu-launches-50th-anniversary-campaign.html>

Our department is expected to contribute to this celebration by a series of activities and your ideas will be appreciated.

During the summer 2014 our general office space will be undergoing a major renovation. The main goal of this long overdue task is to make the general office more functional; i.e., to improve working conditions for our staff and to help them to better serve our faculty and an ever increasing number of students. Your patience and cooperation during the renovation are greatly appreciated.

I would like to use this opportunity to thank Richard for all his support and guidance over the last eight years. I am looking forward to working with Tom and I am positive that in the next few years the department will continue to flourish under his leadership.

And just so you don't forget, we are still hosting our weekly Tea Time (call 778.782.3803 for the exact time). We hope to see you there!

Sadika Jungic,
Manager, Academic and Administrative Services



10 years old photo!

[Our Department in the Media]

Extracted from the SFU News

SFU statistics professor **Tim Swartz** is an author of a study suggesting NHL coaches are much too conservative about when to pull their goalies. The researchers ran simulations and came to the conclusion that NHL coaches weren't being mathematically prudent by waiting until the final minute or so to pull their goalies.

<http://at.sfu.ca/MpprpT>

Sports Illustrated quoted:



Strategies for Pulling the Goalie in Hockey

David Beaudoin & Tim B. Swartz Journal: [The American Statistician](#) Volume 64, Issue 3, August 2010, pages 197-204 Published online: 1 Jan 2012

and on radio-canada.ca at:

<http://blogues.radio-canada.ca/bloguesportif/2014/04/18/letude-secrete-de-patrick-roy-et-les-anomalies-de-la-serie-ch-lightning/>

The Peak has an article at: http://content.lib.sfu.ca/cdm/compoundobject/collection/peak_A/id/40374/rec/7

Rachel Altman <<http://people.stat.sfu.ca/%7Eraltman/>> (Department of Statistics and Actuarial Science) described how statistical methods help predict the recurrence and survival rates for ovarian cancer patients In SFU News April 10, 2014

<http://www.sfu.ca/sfunews/stories/2014/sfu-health-research-day-highlights-accomplishments.html>

Rick Routledge, the acting director of environmental science at SFU, is cited in an article about a new type of responsibly-farmed salmon offered at grocery giant Loblaws. He says grocery stores and restaurants tend to stock fresh farmed salmon because of its abundance compared to wild salmon, which is only available in summer and early fall seasons.

CTV News: <http://at.sfu.ca/eUbaOe>

Financial Post: <http://at.sfu.ca/XJEtDV>

Brandon Sun: <http://at.sfu.ca/RAbhrV>

Global Post: <http://at.sfu.ca/ALhvoA>

Huffington Post Canada: <http://at.sfu.ca/WaaRQR>

[From our Graduate Student Caucus]

The Statistics and Actuarial Science graduate caucus has organised several social and professional activities to enhance the graduate student experience at SFU.

From a social aspect, the caucus has run multiple events over the last couple years. We had two poker nights - the poker nights were free to enter, and we had a \$100 prize budget funded directly from the caucus (also, free pizza). Elena Szefer organized a 'dance party' skating event at the 8 rinks in Burnaby during the 2014 spring semester, where we introduced (among others) our Sri Lankan graduate students to ice skating. Recently, Audrey Beliveau organized a bowling session at the nearby Revs at Holdem, where several students took out their frustration on the poor bowling pins. Soon this summer Mike Grosskopf and Jack Davis will organise our first ever caucus treasure hunt!

From a professional aspect, the caucus has continued to fund and host the SFU-UBC joint statistics seminar each year. We acquire funding from PIMS, the GSS, and the graduate caucus to run this event with 6 student speakers (3 from each school) and 1 faculty speaker from each. The caucus also runs the Meet-the-Speaker sessions after our regular department seminars, where the graduate students enjoy talking to academics and industry professionals about their working career and topics related to their research.

- Andrew Henrey, Statistics and Actuarial Science Graduate Caucus President

[From Jack Davis]

Hello fellow grad students. I'm using up this space to give you some unsolicited advice: Use your time here to make connections!

Modern statistics is the most collaborative of the sciences; we're seen in the worlds of finance, medicine, ecology, public policy, sports and games, and many others. It's easy to find good and interesting collaborative projects in any of these by attending weekly seminars and health science talks in the IRMACS theatre, participating in journal reading groups, or joining and attending some of the many Meetup groups that work with various flavours of data science that meet in Vancouver.

The people you'll meet at these events and the projects and concepts you'll be exposed to will give you a much wider scope of the possibilities of the degree you're earning here, and with little or no homework!

Talk to your other grad students and our faculty as well, as all of you have unique things to offer from your diverse backgrounds. Every week there is a department tea time with free coffee and snacks, where students and faculty mingle informally. The graduate student caucus has occasional events like skating and poker nights that give you the chance to have fun with the others in the department and better know the people you're working alongside. We have ongoing student-run projects like SAS certification program meant to give students some programming exposure and a boost in their job prospects.

So ask around, read the message board outside the stats office and at the front of IRMACS to see what's going on, or e-mail me at jackd@sfu.ca. We'll hook you up!

[From our Undergraduate Student Union]

Hello Everyone,

This year has been a highly active one so far for our department student union, the Statistics and Actuarial Science Student Association (SASSA). We would like to thank everyone for their involvement; thanks to your enthusiasm, each one of our events has been a great success. The Excel workshop held in November 2013 had an excellent turnout. We have also held many social events, including multiple trivia nights, movie nights and a Pi Day event.

We are particularly happy with the high popularity of the trivia nights, which are organized together with the Mathematics and Physics department student unions. These events have become a regular (almost monthly) source of fun and friendly competition between the departments, and we look forward to more of them.

There are many more events being planned for the near future. We hope to see you there!

Sonja Surjanovic, SASSA President



[Our Family Additions]



Jiguo and Liangliang

Andy Cao arrived on February 11, 2014. He is a considerate baby, starting to sleep through the night around three months old. Andy is also a happy baby. He gives us so many toothless smiles when we talk to him. Andy likes his sister, Angela, a lot. He giggles so easily when Angela makes funny faces or count numbers. Angela has become a proud big sister who is pleased to help her parents to take good care of Andy.



Rachel Altman

On Feb. 7, 2013, Rachel and Yevgeni Altman welcomed identical twin girls, Eden Aviv (6 lbs 8 oz) and Noa Liel (6 lbs 11 oz), who arrived at 9:52 am and 9:53 am, respectively. Big brothers Yoav (age 7) and Ben (age 4) are very loving towards their sisters. All four kids are full of energy and mischief and keep their parents on their toes -- at all hours of the day and night!



Zheng Sun

Helena arrived In September 2013, 4 weeks before the expected birthday. Kelly and I were delighted at her arrival. Both sets of grandparents had only one child and are excited to have a grandchild. In fact, they have traveled from the other side of the planet to Canada to provide us with much needed help.

The department has been really generous to us. We are very grateful to several people who have given us such useful items that greatly helped in bringing up Helena for the first few months.

Despite developing slowly in the beginning because of the early birth, she is now, at 8 month, a lively baby who continually surprises us with her steady progress. For this, we are extremely appreciative of the health services in Victoria, doctors, nurses and social workers. Helena came to my graduation and she was quite a hit to those who met her; soon the stage will come when she crawls, then walks, then talks. I am sure this will bring joy to Kelly and myself.

Kelly and Shaun, June 2014

Actuarial Science Program - Gary Parker

Adjunct Appointment:

Camille Minogue was appointed as an Adjunct Professor in August 2013. Camille is Vice-President and Chief Actuary at ICBC. She obtained her PhD from Washington State University in 1991 and is a Fellow of the Casualty Actuarial Society (FCAS) since 1996. She is involved in many professional activities and a frequent conference speaker. She regularly teaches an upper division course covering Property & Casualty topics to our actuarial students. We are delighted to welcome Camille to our group.



Excellent students:

The program continues to attract very good students. At the undergraduate level, about 20 to 25 students have been admitted each year. The number of MSc students admitted is stable at 3 to 5 new students per year. The job market has been improving recently and the majority of our graduates are now getting job offers from major actuarial employers while others choose to pursue graduate studies. Although there is definitely still room for improvement, we are happy with the recent placement rates. The success rate of our students taking preliminary professional exams is well above the national average. We have an almost perfect record with the first two exams (P and FM) and the majority of students graduate with 3 to 5 exams. The News and Events section of the Department's website contains a few announcements about major awards won by our students, including Dean of Science awards, Governor General's Medals, John Culver Woody Scholarships and others.

Actuarial Afternoon:

The Statistics and Actuarial Science Student Association (SASSA) hosted the second edition of "Actuarial Afternoon" in November 2012. This was a fun and informative event featuring outstanding practitioners from various actuarial fields. The distinguished speakers each gave a short presentation about their individual experiences navigating the actuarial career path including some candid advice for those just starting out. The speakers' presentations were followed by a networking reception.

Many thanks to the speakers: Raymond Chiang, Industrial Alliance; Victoria Laan, Mercer; Rina Wang, ICBC and Nadeem Rajabali, Sun Life.

Accreditation:

SFU has been successful in renewing its designation as a Center of Actuarial Excellence (CAE) by the Society of Actuaries (SOA) every year since receiving this designation in 2010. In addition, close monitoring and extensive reporting of topics covered and examined in approved courses have enabled the program to maintain its full accreditation status with the Canadian Institute of Actuaries (CIA). Changes to the program will be necessary in the near future to ensure compliance with the CIA criteria for full accreditation. The main changes will consist of rearranging the topics covered in some of our existing 300 and 400 level courses as well as restructuring and/or creating new courses to better cover the financial economics material for the professional exams.

CAE Summit:

Two of our students, Shuai (Alex) Yang and Ning Wang, traveled to Chicago in August 2013 to represent SFU for the first time at a CAE Student Summit. The Summit was developed by the SOA to provide an informative, interactive, high-end, networking experience for this elite group of students. As attendees of the Summit, students participate in a variety of activities; share, exchange and discuss relevant actuarial/profession-related issues with SOA leaders, guest speakers and fellow students from other CAE schools. Alex and Ning formally presented the information received during the Summit to SFU students and Faculty.

SFU has been represented by at least one Faculty at every annual CAE Faculty Summit. The purpose of those meetings is to discuss educational issues as well as research trends with SOA leaders and fellow professors of CAE schools.

CAS Meeting in Vancouver:

The Casualty Actuarial Society welcomed actuarial students from SFU to its 2013 Spring Meeting in Vancouver for a day of networking and educational sessions. SFU's participation was part of the CAS's university engagement initiatives to bolster the CAS relationships with the academic community. Students attended a lively ethics presentation by Bruce Weinstein, aka The Ethics Guy. Following the luncheon, students had their choice of 15 concurrent sessions discussing the work of CAS actuaries in areas such as emerging risks, reinsurance, workers compensation and flood insurance. The day ended with a short debrief with CAS leaders and staff.

Research and professional activities:

Our group volunteers on a number of committees serving the Statistical Society of Canada (SSC), NSERC, the CIA and SOA. SFU has been represented by at least one Faculty at most major national and international conferences in actuarial science. The small group of four Faculty was awarded research grants from sources such as MITACS, NSERC (Yi Lu and Cary Tsai; both successfully renewed this year), SOA (Yi Lu, Barbara Sanders and Cary Tsai).

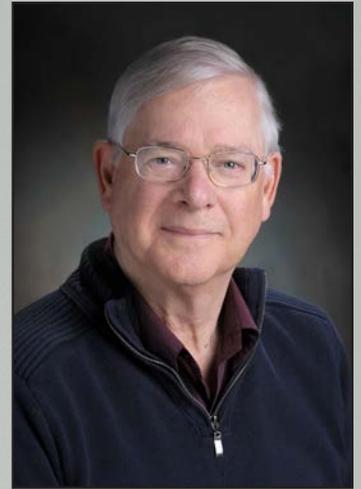
Sessionals:

Finally, we acknowledge the excellent work done by our sessionals: John Kowalik, Camille Minogue, Peter Muirhead, Lori Satov, Lisa Stanley, Kyle Wu and Henry Yuen. Not only do they allow SFU to offer more actuarial courses but they also immensely improve the quality of the education the students receive by sharing their deep knowledge and vast experience in the actuarial practice.

Statistics Workshop - Robin Insley

After reviewing what I said about the Workshop in the last edition of the Newsletter there has been only one significant change to the operation of the Workshop. Our plans to negotiate with the Mathematics Department for the exclusive use of the room adjacent to the main Workshop was completed successfully. This resulted in a space increase of about 40%. The space was much needed space since we are now servicing over 1300 students during each of the fall and spring semesters and about half that number during the summer semester. We also provide a Workshop at the Surrey campus during the fall and spring semesters.

Over the past year we have had fifty-six Teaching Assistance helping in the Workshop, most of whom are graduate students. The money earned by the graduate students goes towards the financial commitment that the department makes to all entering graduate students.



Statistical Consulting Service - Ian Bercovitz

The Statistical Consulting Service provides expert statistical advice to students and faculty members to many departments from all three SFU campuses. The consulting service offices are located on the Surrey and Burnaby campuses and are run by Marie Loughin and Ian Bercovitz respectfully.

The goals of the Statistical Consulting Service are to provide expert statistical advice to individuals involved in data-based research projects, to promote links between the statistical education program at SFU and individuals involved in data-based research, and to improve the quality of both data-based research and the teaching of graduate students in Statistics. The service continues to be a valuable asset to graduate students, giving them hands on experience working with clients and providing them with ties to local industry. Many faculty members have given their time to work on or supervise their graduate students on various projects.



The Statistical Consulting Service is a non-profit organization that operates on a cost recovery basis. Approximately 50% of the revenues come from teaching initiatives at SFU involving the NOW program and teaching graduate level statistical consulting courses Stat 811 and Stat 812. The consulting service provides support to 40-60 students and faculty members on an annual basis and also works with local industry on various projects. Some recent external projects include work with Bentall Kennedy (Canada), Interfor Canada, and Fisheries and Oceans Canada.

Ian Bercovitz,
Director, Statistical Consulting Service

The Surrey Campus - Tom Loughin

It's been a very quiet year in Surrey, as both of the departments representatives in Surrey---Dave Campbell and Tom Loughin---have been on study leave since September. Dave is in Manitoba, where he has reportedly grown a giant beard to help stave off the bitter cold, while Tom has stayed in town but adorned his invisibility cloak as much as possible as he finished his book on Categorical Data Analysis using R. Teaching has been handled by sessional instructors.

There will be major changes in Surrey starting the Fall. Tom becomes department chair then, leaving Dave as the lone full-time statistician on the Surrey Campus. Marie Loughin continues to visit the campus roughly weekly to represent the Surrey branch of the SFU Statistical Consulting Service.



The Co-op Office - Natalie Erickson, the Statistics and Actuarial Science Co-op Coordinator

Participation in Statistics and Actuarial Science Co-op remains healthy as we welcomed 34 new students into the program in 2013 and 13 more students in 2014 (so far). When students enter the co-op program, they receive specialized training and coaching to prepare them for the competitive job market and then they continue to receive support during the transition to the workplace. During Summer 2014, we will be piloting a series of specialized workshops targeted at the actuarial recruitment process. The goal of these sessions will be to help our students with their communication skills at all stages of the job search process.

The Co-op program strives to provide great experiential learning opportunities for our students and to help them achieve a greater understanding of their studies. In 2013, we supported 47 student placements with organizations locally, nationally and internationally. So far in 2014, we have placed an additional 32 students.



Over the past year, some of the experiences our students have enjoyed include:

- Data Science Co-op Student at Hootsuite: "It gave me a better [understanding] of what the IT industry is like, and how Big Data works."
- Assistant Performance Analyst at Hydro One Networks: "I am amazed at how statistics can be applied to power companies. I am thankful for majoring in statistics."
- Actuarial Co-op: ERM/Biometric Research at Munich Reinsurance: "It help[ed] me to apply what I have learned theoretically into reality."
- Actuarial Co-op at Manulife Financial: "Gaining experience in life insurance and learning to use new software were valuable aspects."

In addition to the companies listed above, our students worked with organizations such as:

- Bank of China
- Blackberry
- Genome Sciences Centre
- PricewaterhouseCoopers
- Providence Healthcare Research Institute
- Statistics Canada
- UBC Centre for Heart Lung Innovation
- UBC Centre for Operations Excellence
- Vancouver Coastal Health Authority
- Aon Hewitt
- D.A. Townley
- ICBC
- Mercer
- Morneau Shepell
- Pacific Blue Cross
- Royal Sun Alliance of Canada
- Towers Watson
- Westcoast Actuaries

We are always looking for new opportunities and we welcome your suggestions or referrals. Please feel free to forward any information to Natalie Erickson, the Statistics and Actuarial Science Co-op Coordinator. She can be reached at natalie_erickson@sfu.ca or 778-782-4654.

[Departmental Events]

Departmental Reception for Awards/Graduands:

<http://www.stat.sfu.ca/news/departmental-reception-june-2014.html>

Our department represented at the Information Evening:

<http://www.stat.sfu.ca/news/infoeve.html>

Stat & Act Sci Team “The Walking Data” participates in Terry Fox Day:

<http://www.stat.sfu.ca/news/walkingdata.html>

From Jinko Graham, the Seminar Series' Coordinator

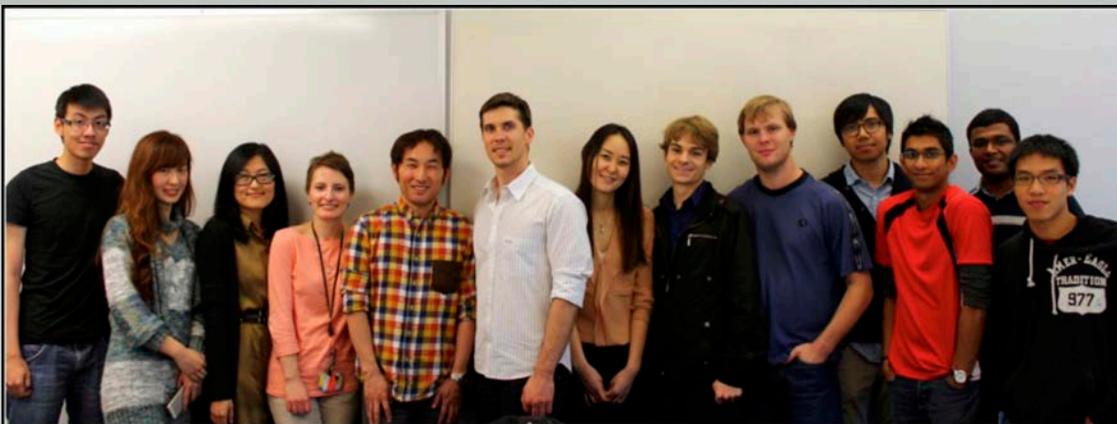
The Department of Statistics and Actuarial Science was pleased to host a special Seminar series in the fall of 2013, organized by and for students. To celebrate the International Year of Statistics and recognize the contribution of Statistics to society, the series featured interdisciplinary speakers and talks with a career component. Students and alumni were invited to come and find out how their love of Statistics could connect them to a potential career in a variety of interesting areas.



Audience at one of the seminars (left).



Kathryn Mills from Canadian Border Services Agency in Ottawa gave a talk titled “From Cryptography to Big Data: A Career Path in Government Now” (right).



Meet the speaker session with DeNA Studios. Jinhee (Jinny) Lim, Jean-Christophe Rodrigue and Satoru Ishida from DeNA Studios Canada in Vancouver gave a talk titled “Analytics for Games - Understanding our users”.

Actuarial Science Program Gathering

Gathering in Toronto when Drs Tsai and Lu attended the SSC meeting. 18 students/Alumni attended, in which 17 from actuarial science program and Jing Cai was a graduate student in Statistics. Some of the attendees are currently holding co-op position in Toronto.



Faculty of Science organized 'Going Bananas' to support students during the week three of classes.

Everyone liked the event.



Our alumni Andrew Balzer has received an A Stat. designation from Statistics Canada

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Visit our ‘Humour’ page

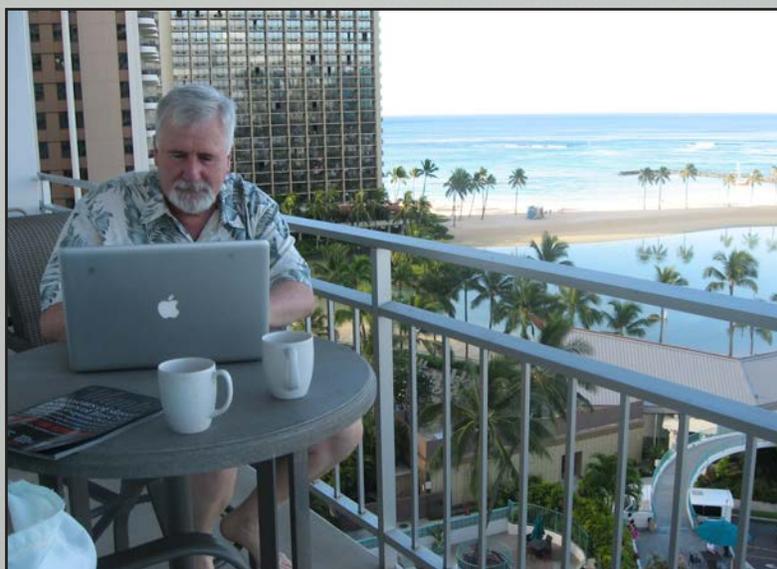
<http://stat.sfu.ca/teaching/faq/humor.html>

Your will find there e.g.:
Stats Canada on Twitter



[From the Editor]

A Posteriori Update’s editor (obviously not unplugged) working while being badly inconvenienced by sunscreen on his fingers...



To hear how an “advanced” STAT class might be experienced you might wish to visit:
http://podcast.cbc.ca/mp3/podcasts/vinylcafe_20140412_94936.mp3