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SFU Department of **STATISTICS & ACTUARIAL SCIENCE**

Newsletter



SFU

SIMON FRASER UNIVERSITY
ENGAGING THE WORLD

2012



Welcome...

Welcome to the 2012 edition of the Department of Statistics and Actuarial Science Newsletter. 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 2010, 2011, and 2012. We hope this helps you maintain connections with the Department.

Our Facebook group is at:

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

Our LinkedIn group is at:

http://www.linkedin.com/groups?home=&gid=4342867&trk=anet_ug_hm

Table of Contents...

Welcome.....	2
A word from the Chair.....	3
A word from the Graduate Studies Program.....	4
A word from the Department Manager.....	5
Statistical Society of Canada.....	6
Our Department in the Media.....	7
About Geek Week 2012.....	8
Our Family Additions.....	9
News from the Graduate Student Caucus.....	10
About Undergraduate Curriculum Revisions.....	11
In Spotlight.....	14
Some News from.....	15
the Actuarial Science Program.....	15
the Statistics Workshop.....	16
the Consulting Service.....	17
the Surrey Campus.....	17
the Management and Systems Science program.....	18
About Co-operative Education.....	19
Awards.....	20
Departmental Events.....	22
SFU Open House - Our Department.....	25
The Strength of the Walking Club.....	26

Comments and suggestions are always welcome; please feel free to send us an email.

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This and past issues of the newsletters can be found at: <http://stat.sfu.ca/about/newsletters.html>.

A word from the Chair...



The past year has been very interesting for our Department. Personnel changes have highlighted the strength of our faculty and given us the opportunity to retain our strong stature in Canada by making an outstanding appointment. Our tenth anniversary, last May, was a wonderful success, and department members have continued to excel in many forums.

Last April we were sad to lose Leilei Zeng to the University of Waterloo, but happy for her sake; she has been appointed to a Graham Trust Chair in the Department of Statistics and Actuarial Science there. Then Charmaine Dean took up the post of Dean of Science at the University of Western Ontario (now called Western University); an enormous loss for us, of course, and an enormous gain for Western! Jiguo Cao has been appointed as a Tier II Canada Research Chair also at Western and of course this is another significant loss for us. Nevertheless, we take pride in the fact that our faculty are so attractive to other institutions, and offer our warmest wishes to all three along with our thanks for their many contributions to our group.

In view of these departures we were able this year to carry out a search for a new faculty member. We had two very strong candidates and were, in the end, enormously pleased to be able to appoint Qian (Michelle) Zhou as an Assistant Professor beginning this July 1st. Michelle has a PhD from the University of Waterloo and comes to us from a post-doctoral appointment at the Harvard School of Public Health. We are very happy to have her added strength in Biostatistics and look forward very much to her arrival.

A number of other things have happened around our department since the last newsletter, two years ago. First, I want to highlight a couple of local events from 2010. In July of that year we hosted the 45th Actuarial Research Conference, the most important conference in North America for academics and graduate students in Actuarial Science. The conference promotes education, research and interaction with industry and was a suitable marker for the passage of twenty years since we first mounted our actuarial program. Since that conference SFU has been designated as a Center of Excellence by the Society of Actuaries; I am very proud of this achievement of our actuarial group: Gary Parker, Cary Tsai, Yi Lu and our most recent addition to the group, Barbara Sanders. Barbara is a Fellow of the Society of Actuaries and of the Canadian Institute of Actuaries; she joined our department in the fall of 2010 and we are very glad to have her.

In August 2010 the annual Joint Statistical Meetings were held at the new Convention Centre in downtown Vancouver. This meeting is organized by the American Statistical Association and sponsored as well by the Institute of Mathematical Statistics, the Eastern and Western North American Regions of the International Biometrics Society and by the Statistical Society of Canada. This is the premier meeting for statisticians; it is estimated that 5600 statisticians attended. One highlight was a session entitled *"How Government Statistics Make a Difference"* at which the former Chief Statistician of Canada

participated in a panel discussion. The appearance was particularly timely since Dr Sheikh had resigned only 3 weeks before over the cancellation of the long form of the Census and the way the government had portrayed this advice. Statistics agencies are rarely so much in the news!

I want to take this opportunity to point you to our efforts to build on-line community and visibility. Our Facebook group is at:

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

We recently also started a LinkedIn group “*SFU Statistics & Actuarial Science*” at:

http://www.linkedin.com/groups?home=&gid=4342867&trk=anet_ug_hm. We think a LinkedIn group provides an opportunity to maintain a professional community and we very much hope to draw alumni into closer contact with us by encouraging them to join our group.

Richard Lockhart
Professor & Chair

A word from the Graduate Studies Program Chair...



Hello Everyone:

There is not a whole lot to say about Graduate Studies this year. Generally speaking, students come, they learn a lot and enjoy their time here, and then off they go to seek their way in the world. Notably in 2011, upon completing their PhD's, Ryan Lekivetz, Carolyn Huston and Elizabeth Juarez took faculty positions at UBC-Okanagan, BCIT and University of Colorado Denver respectively.

It looks like our graduate student intake for September 2012 will continue to have an international flavour with students arriving from various parts of Canada, the US, China, Iran, Sri Lanka and the Former Yugoslav Republic of Macedonia.

Cheers,

Tim Swartz
Professor & Grad Chair

A word from the Department Manager...



In 2011, the Department of Statistics and Actuarial Science celebrated its 10th anniversary. As part of marking this important landmark in our progress, we produced a documentary film entitled "*A Decade of Statistics*." If you have not seen the film, or if you just wish to again see a colleague that we all miss very much, please visit <http://www.youtube.com/watch?v=6ORlqOBEGm4>.

On the administrative side of departmental operations, in 2010 and 2011 we introduced and implemented a new database that simplified the task of keeping some of our records updated. Our department was also one of the first academic units at SFU to switch to the new Content Management System CQ5 for managing the departmental website. The new system is simple to use and I would like to encourage those faculty members who wish to get involved in creating and adding new content to our website to contact me for further information.

In 2012/2013 academic year, the department will implement two changes that will have a long-term effect on our day-to-day academic

and administrative operations and activities. One is the implementation of the changed academic program in Statistics that will come into effect in the Spring 2013 semester. The other change will be our expansion into a new space formerly used by the Office of the Dean of Science. The current plan is to use this area as an office space for visitors, graduate students and sessional instructors.

On May 26 the University hosted an Open House where our department was represented among more than 100 displays. Please check this link for more information: <http://www.sfu.ca/openhouse/2012.html>. More about this link in the next newsletter.

On June 13 the department will host our second annual Graduands/Awards reception. Expect more information about this event from us.

We would also like to encourage you to create your profile on LinkedIn and add yourself to SFU's Statistics & Actuarial group. For those of you unfamiliar with LinkedIn, LinkedIn is one of the largest professional business networks.

Additionally, we are still hosting our weekly Tea Time (call for the exact time). Please come and join us!

Sadika Jungic,
Manager,
Academic and Administrative Services

Statistical Society of Canada...

The Statistical Society of Canada (<http://www.ssc.ca>) offers two levels of accreditation, the Professional Statistician (P.Stat.) and the Associate Statistician (A.Stat.). The qualification of A.Stat. is intended to indicate that the holder has completed a course of study equivalent to a major or honours degree in statistics, or in exceptional instances, has otherwise demonstrated an advanced understanding of statistical theory and its application. The qualification of P.Stat. is intended to indicate that the holder has the necessary academic qualifications and a minimum of six years of professional experience in the application of statistics. Several members of the Department have been awarded the P.Stat. designation (**Routledge, Schwarz**). [Unfortunately, it is difficult to tell if any of our Alumni have been awarded the P.Stat. or A.Stat designation – sorry.] The department will be seeking accreditation for its revised program and the new courses.

2012 Annual Meeting in Guelph, Ontario...



The 40th Annual Meeting of the Statistical Society of Canada was June 3-6, 2012 at the University of Guelph in Guelph, Ontario. For more information visit: <http://www.ssc.ca/en/meetings/2012>.



Our Department in the Media...

Over the last couple of years members of the Department have been present in public life as news makers and commentators of various issues that were of interest for the Canadian and international media.

The results of Rick Routledge's research have been in the center of the public and media attention since Summer 2011. For example in February 2012 The Victoria Times Colonist told readers: *"Sea lice are spreading from fish farm salmon to young Fraser River sockeye as they migrate through the Strait of Georgia, a new study has found... It is the first time a proven link has been found between fish farms and elevated rates of sea lice on Fraser River sockeye."* The Vancouver Sun also did a story. The Victoria paper noted the research was by scientists from SFU, the Raincoast Conservation Foundation, Watershed Watch Salmon Society and UVic. SFU's contributors were John Reynolds, Tom Buell chair in salmon conservation; and **Rick Routledge**, statistics prof and fish-population statistician.

For more information about various issues related to Routledge's finding see his contribution in this newsletter.

The decision of the federal government regarding upcoming census was one of the issues that gained attention of the whole Canadian society in Summer 2010.

In July 2010, **Carl Schwarz** and **Charmaine Dean** were interviewed by CJBK Radio in London ON, and Schwarz was in Burnaby Now and the Georgia Straight, re: the federal government's decision to scrap the compulsory "long form" census questionnaire. The Straight picked up a release from SFU in which Schwarz said: *"Making decisions with poor data is worse than making decisions with no data. 'If you have no data and have to make a decision, then at least you need to be up front about your lack of knowledge and the basis for your decision. On the other hand, if you have poor data, you can seriously mislead people about the information you actually have and make decisions that have the aura of confidence... not warranted by the faulty information.'"* The Royal City Record also wrote an editorial supporting Schwarz's position to keep the long-form census.

Earlier, **Richard Lockhart** weighed in on the same subject in The Vancouver Sun: *"It's going to cause a significant deterioration in all the other survey results they (Statistics Canada) put together. It's awful."*

Also in Summer 2010, The Edmonton Journal examined an Alberta government online survey asking citizens to evaluate the process for handling police complaints and discipline. The story included a caution from **Ian Bercovitz**, director of statistical consulting in the Department of Statistics and Actuarial Science:

"Whenever you have these types of surveys, you have self-selection biases. If someone is angry, they might respond one, two, three or four times. You've got to take the results with a grain of salt." Canwest News Service sent the story across the country.

...On the Lighter Side of Statistics

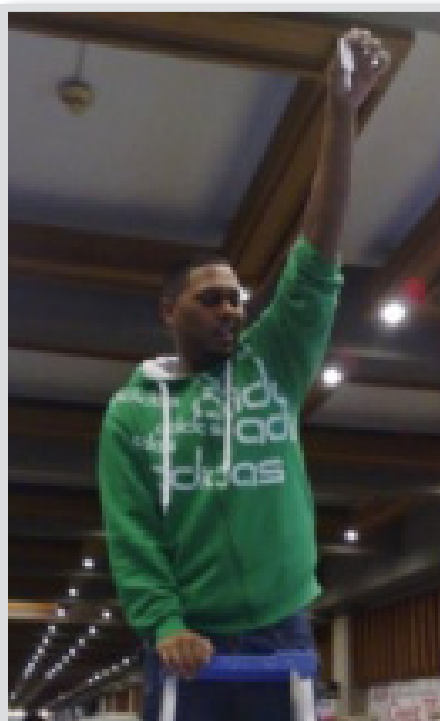
With a \$50-million prize in tonight's Lotto Max pot, CTV News asked a number of people if they've got a ticket—and wrung a confession from Richard Lockhart, chair of SFU Statistics and Actuarial science. *"I have got a ticket, yes. It's almost professionally suicidal to say so, but I did. If you thought about it in odds and terms of money, you'd never ever buy a ticket."* (June 2010)

“Will it be Brazil? Or is Spain a rising contender? Predicting the winner of the 2010 World Cup soccer event is as subjective as the factors used in determining the outcome,” said **Tom Loughin** on CKNW in June 2010.

When should you pull the goalie in a hockey game? The Globe and Mail looked at the question, and cited a study co-authored by **Tim Swartz**. Research partner David Beaudoin of Laval told the Globe: *“The current strategy used by NHL coaches... is to pull the goalie with one minute left when trailing by one goal and 1:30 left when trailing by two goals. We simulated millions of games, using different strategies, to see which one led to the highest-winning percentage. We discovered the current strategy used by coaches is pretty much always the worst. You have to be much more aggressive, especially if you get powerplays late in the third and you’re trailing. Often, you have to pull the goalie much sooner.”*

24Hours did a story, which then ran on the Canoe.ca network. In it, Swartz said: *“The point is you’re going to lose anyway if you don’t score so you might as well push the envelope a little bit and increase your scoring rate.”* He added that the chances of the opposing team scoring on an empty net do increase — but don’t outweigh having your own sixth attacker on the ice. News1130 Radio also did a story, from SFU’s release.

About Geek Week 2012...



Geek Week is a week-long festival of science aimed at SFU undergrad students. Its purpose (in addition to having fun!) is to promote the student community within the Faculty of Science and to get students from all faculties talking and thinking about science. This year, events took place January 23 - 27.

Volunteers from the Department of Statistics and Actuarial Science did a fantastic job at showing how statistics can be both interesting and exciting. One of their activities, designed to illustrate a data visualization technique, was leading flash mob “living histograms” in the AQ; they organized passers-by by height and gender to create an informative, visually appealing 3D summary. They also showed the importance of designed experiments by having participants drop paper helicopters of different designs; the goal was to identify factors that maximize the helicopters’ time in the air before hitting the ground.

At our booth, our volunteers showed participants a method for obtaining information about a sensitive question (*“What percentage of SFU students cheat on exams?”*) while protecting the privacy of the respondents. They also had posters illustrating the Monty Hall problem, Simpson’s Paradox, and how one can lie with data.

Thank you once again to our hard-working volunteers for their contagious enthusiasm for statistics! Best Guo, Simon Mak, Evelyn Liu, Summer Li, Pietro Alexander Campesato and Nathan Nastili.



Video recap here: <http://www.youtube.com/watch?v=eLawckFKF40>

Our Family Additions...



In July 2011 Barbara and James Sanders welcomed their baby boy Max Bennett. Shortly after birth Max was found counting random objects (including his toes) with great seriousness, pointing towards a potential career in the mathematical sciences. By Christmas, however, a more jovial spirit emerged with a fancy for costumes and cameras, elevating the likelihood of a future in the performing arts.

Barbara, James, and Max



On July 18, 2011 Avelyn Marie Challenger came into our lives. She came 10 days earlier than expected, with only 4 hours notice. Living up to her birth, she has been a whirl wind of energy from the first moment of waking to sleep. With an almost prescient prediction, her 5 year old cousin surprised us all by suggesting we name her Fireball weeks before her birth. While I won't stifle her self image with such nickname, we may however find some fun fireball stickers to stealthly place on her first bicycle.

Both Karen and myself feel blessed by our energetic bundle of joy. She is our first child and we are constantly blown away by her development. From her first real smile (the one when you see the spark in her eye) to more recently the games we have developed - which mostly consist of her trying to crawl into a room she knows is off limits, arriving at the threshold, looking back to see if anyone is watching, giving a devilish laugh, then making a fast moving baby charge into the foreign territory - we are all smiles and look forward (with some mild trepidation) to the years that lay ahead.

Karen, Wendell, and Avelyn



Binyamin Sha'ul [Ben] Altman arrived on April 5, 2010, much to the delight of his parents, Rachel and Yevgeni, and his big brother, Yoav. His current interests include trucks, roughhousing, jumping off furniture, and essentially anything that is likely to give his parents heart attacks on a regular basis. He also adores spending time with his big brother (see them pictured here eating ice cream in Hawaii!).

Rachel, Yevgeni, Yoav, and Ben

News from the Graduate Student Caucus...

In the past two years the Department of Statistics and Actuarial Science's student caucus has maintained an active role in organizing academic and social activities to give an avenue for students to relax, to blend with their peers and to provide opportunities for networking with other statisticians.

The Fall 2010 SFU/UBC joint graduate student seminar took place at SFU Harbour Centre for the first time in its history (<http://www.sfu.ca/~jer3/jsssfall2010.html>) with the usual support of our Department, our caucus's funds, PIMS and SFU's Graduate Student Society. This new venue saw students from both SFU and UBC attend this seminar with greater expectation and as a result the students from UBC reciprocated by organizing the next Spring seminar at Robson Square. We were lucky to listen to the talks by Dr. Tom Loughin (about statistical consulting) from our Department and by Dr. Jiahua Chen from UBC. As well, we were witnesses to the talks by Olga Strizhkova, Yan Zhang and Jing Cai from SFU and by Michelle Xia, Kevin Ushey and Xiaoli Yu from UBC. Besides the ice breaker that happened during the morning coffee, we were also lucky to enjoy an all you can eat lunch at a Brazilian restaurant specializing in meats, then dinner and some beer at a nearby pub. Special thanks go to Dr. Michael Stephens who doesn't seem to run out of energy and keeps attending these student seminars and provides presenters with his feedback.

The Fall 2011 SFU/UBC joint graduate student seminar (<http://www.sfu.ca/~jer3/jsssfall2011.html>) went back to Harbour Centre with the same sponsors as for the 2010 edition. On this occasion from room 7000, 007 spoke. We are referring to Dr. Carl Schwarz from our Department, who gifted us with a talk about life after graduation. His talk was complemented by a presentation on statistical computing by Dr. Harry Joe from UBC. To complete the roster, Zhiwei (Ricky) Tang, Fabian Moya and Harsha Perera from SFU together with Ehsam Karim and Yumi Kondo from UBC spoke to the rest of the attendants. Unfortunately a family emergency prevented Luke Bornn from UBC to give his talk but sent his notes for the seminar's website. Besides the morning coffee and dinner at a nearby pub, the highlight of the day was lunch enjoying an amazing view of the city from Top of Vancouver restaurant.

The students have also kept alive the *Meet The Speaker* series, where they get to interact with the seminar speaker in a very casual way. Another interesting event was the promotion of student membership to the American Statistical Association, where in September 2010 Dr. Tom Loughin spoke about the benefits of joining the ASA for a modest fee. The event was followed by a small pizza gathering which saw several professors joining in. One of the most recent programs organized by students was

the interactive tutorial on R given by Andrew Henrey and Jack Davis in February 2012.

In the social area, students have continued to be one of the organizing forces behind the Christmas parties. Fun bowling outings were organized during the 2011 Spring and Fall semesters and a big celebration party happened during the summer term with the presence of about a dozen of newly graduated students. The student caucus looks forward to continue organize more events of interest for its members in the future.



About Undergraduate Curriculum Revisions...

The Department of Statistics and Actuarial Science has recently completed a major review of its undergraduate major, honors and minor programs in statistics. The discipline, teaching methodology, employment market, university priorities, and department's capacity have all undergone substantial change since the curriculum was last overhauled.

The Statistics Major has been revised to provide students with both an improved undergraduate experience in terms of (i) the broad goals of intellectual development embodied in the traditions of undergraduate education, and (ii) developing a more up-to-date, solid foundation leading to a career as a professional statistician. We have also revised the Statistics Honors program to enhance student preparation for graduate training.

In addition, the Statistics Minor program has been revised to enhance its relevance and appeal to students majoring in other disciplines where such a minor would be of considerable value. This is part of a broader strategy to create more opportunities for students focusing on other disciplines to take techniques courses in areas of high interest (traditional and emerging) such as multivariate statistics, logistic regression, and time series analysis.

The Department regards this reform package as the first stage of an ongoing redevelopment. With these key improvements in place, we shall focus on enhancing our efforts to recruit more top-quality students into the programs, expanding our involvement in interdisciplinary programs, and developing an accelerated five-year program that would challenge bright students to complete both a BSc and MSc degree with professional accreditation in five years from high-school graduation.

In addition, in preparing these revisions, the Department paid particular attention to developing the following:

- a. Solid understanding of the foundations of statistics and associated mathematics,
- b. Enhanced computing skills,
- c. Familiarity with appropriate statistical techniques,
- d. Solid grounding in an appropriate area of application, and
- e. Enhanced writing, oral communication, and associated so-called soft skills.

The following are key elements of the reforms:

- a. Core Concepts and Program-Level Expected Learning Outcomes: The reform package

includes a list of key expected learning outcomes associated with such aspects of the curriculum as statistical theory and computing. Integral to these lists are itemized objectives for individual courses (i.e., course-level expected learning outcomes) aimed at weaving threads into the curriculum through which key concepts are reinforced at higher levels of sophistication as the students progress through the program.

- b. Statistical Theory: While retaining appropriate emphasis on the theory underlying statistical methodology, the revised curriculum sharpens the focus on concepts that are central to the needs of today's practitioners. This includes such topics as likelihood-based and Bayesian inference, bootstrapping and other resampling methods, and relevant asymptotic theory.
- c. Computing: The revised curriculum ensures that statistical computing is integrally woven into the program, with components stipulated on a course-by-course basis.
- d. Experiential Learning: The Department recognizes the importance of experiential learning. We believe that providing direct experience is as essential in teaching students how to do statistical work as it is in teaching people to swim. Although direct activities have long been key component in much of our teaching, the revision package provides a list of key opportunities for incorporating these activities into our courses. In related activity, we shall also work toward enhancing the co-op education activities for our students and in creating more opportunities for advanced students to gain experience in research.
- e. Communication and other "soft" skills: The revisions also contain elements designed to foster the development of improved skills in oral and written communication, graphical displays, and interpersonal skills. Nonetheless, department members generally sense that our capacity to address this key issue is limited by our collective lack of specialized expertise in teaching these sorts of skills and by the extensive time commitments that are typically required. We view the currently proposed revisions as a first step in an ongoing effort to improve our students' education in these key areas.

This reform package has now been approved and we will start implementing it in the Spring 2013.

...Summary of Most Salient Features

The Curriculum Review Committee now has a formal package ready for departmental discussion. Since the package is large, the committee has prepared the following list of the most salient features. The committee welcomes all discussion – on these points and others – at the upcoming meeting.

- 1. Changes to the BSc Major:
 - a. Addition of a mandatory course in statistical computing STAT 340.
 - b. Replacement of list of mandatory 400-level STAT requirements with a more flexible requirement that students select at least 4 such courses, but of their own choosing subject to advice from a departmental advisor.
 - c. Conversion of STAT 402-3 to STAT 475-3 with a shift of emphasis from generalized linear modeling theory to discrete data analysis.
 - d. Addition of two new courses in applied statistical methodology, one each in multivariate analysis (STAT 445) and time series analysis (STAT 485).
 - e. Deletion of STAT 400.

2. Changes to the BSc Honours:
 - a. Addition of a mandatory course in statistical computing STAT 340.
 - b. Retention of the list of required courses.
 - c. Conversion of STAT 402-3 to STAT 475-3 with a shift of emphasis from generalized linear modeling theory to discrete data analysis.
 - d. Addition of two new courses in applied statistical methodology, one each in multivariate analysis (STAT 445) and time series analysis (STAT 485).
 - e. Deletion of STAT 400.
3. Changes to BSc Minor:
 - a. Major alteration of program to provide students with the opportunity to complete a minor in statistics through courses in applied statistical methodology.
4. Changes to Individual Courses:
 - a. STAT 285: The elimination of the small component on time series analysis (to be taught more extensively in STAT 485) and updating of prerequisites.
 - b. STAT 340: New course in statistical computing.
 - c. STAT 380: Change of prerequisite.
 - d. STAT 400: Course to be cancelled .
 - e. STAT 402: Replaced by STAT 475.
 - f. STAT 602: Companion course to 402, replaced by STAT 675.
 - g. STAT 445: New course in applied multivariate analysis.
 - h. STAT 475: Revamped STAT 402, focusing on discrete data analysis
 - i. STAT 485: New course in time series analysis.
 - j. STAT 645, 675, and 685: new companion courses to the above three available for graduate students from other departments.
5. Addition of descriptions of core competencies and program-level expected learning outcomes.

In the Spotlight...



Infectious Salmon Anaemia Virus

Department member, Rick Routledge, became embroiled in controversy last fall when he learned that 2 of 40 juvenile sockeye salmon that he had sampled in Rivers Inlet had tested positive for the infectious salmon anaemia virus (ISAv). He had sent the samples off for testing as part of a search for a cause for his alarmingly low catch rates during the juvenile sockeye salmon migration in the previous spring. The virus can cause severe mortalities in Atlantic salmon farms; yet at times it can be relatively benign. Its impact on wild Pacific salmon is largely unknown. There have been major outbreaks of the disease virtually everywhere where the salmon aquaculture industry has become established – in Europe, Atlantic Canada, and Chile. Yet up until last fall, there had been no publicly released evidence of ISAv in British Columbia waters – in either cultured or wild salmon.

When Routledge, his graduate student, Nicole Gerbrandt, and collaborator, Alexandra Morton released the information at an

October press conference, the story was picked up by news media around the world, including The New York Times, The Times of London, and even Al Jazeera. The Canadian and British Columbian governments and the aquaculture industry questioned the validity of the tests. The Canadian Food Inspection Agency took possession of his 2011 Rivers Inlet sockeye salmon samples for retesting and quarantined all the rest of his 2011 samples. The Cohen Commission investigating the instability of Fraser River sockeye salmon reopened its recently concluded hearings for three days of public testimony devoted to ISAv issues in December.

In the meantime, further samples collected from the Harrison River in the Lower Mainland also tested positive for the virus – a finding that government officials noticeably ignored in their press briefings.

Eventually, the Cohen Commission uncovered startling evidence. A federal government laboratory had found positive test results for the virus from fish sampled in 2002 and 2003. These included all of the 64 sockeye salmon sampled from returns to Cultus Lake, where the sockeye salmon population had recently been declared as endangered by the Committee on the Status of Endangered Wildlife in Canada. Although such tests are not definitive, it was appalling to many observers that the government scientists did not immediately inform the Cultus Lake sockeye salmon recovery team, Nor did the federal government report the test results to the Cohen Commission in response to a specific request for documents related to potential factors impacting sockeye salmon returns to the Fraser River. The Canadian government also apparently failed to alert Alaskan officials that a fish sampled from waters off their coast had also tested positive for the virus.

The Cohen Commission is scheduled to release its report, with recommendations, in September of 2012.

Some News from...

...the Actuarial Science Program

The 45th Actuarial Research Conference on July 26-28, 2010:

During Summer 2010 SFU hosted the ARC which is the most important conference in North America for academics and graduate students in this field. This conference is open to all areas of actuarial practice and promotes education, research and interaction with industry. The year 2010 also marked the 20th anniversary of the SFU's actuarial science program. More details are available at <http://stat.sfu.ca/news/arc-45.html>.

Fall 2010:

In the Fall of 2010 the Actuarial Science group welcomed a new colleague Barbara Sanders who was hired as an Assistant Professor.

On Dec 20, 2010 we received notification that SFU has been recognized as a Center of Actuarial Excellence by the SOA. This is a significant achievement as there are only a handful of schools in North America who have received this designation to date, so feel free to spread the news. Many thanks to all the students, faculty and alumni who supported our application!

December 2011:

As part of the ground-breaking partnership between the Canadian Institute of Actuaries (CIA) and Canadian universities, the CIA granted full accreditation to Simon Fraser University for courses beginning on or after September 2012. This achievement makes our actuarial group very content and the department proud of them.



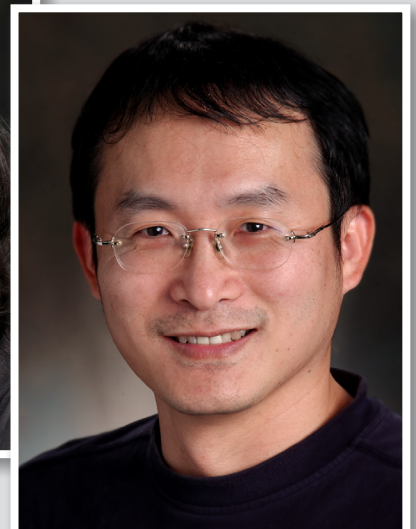
Yi Lu



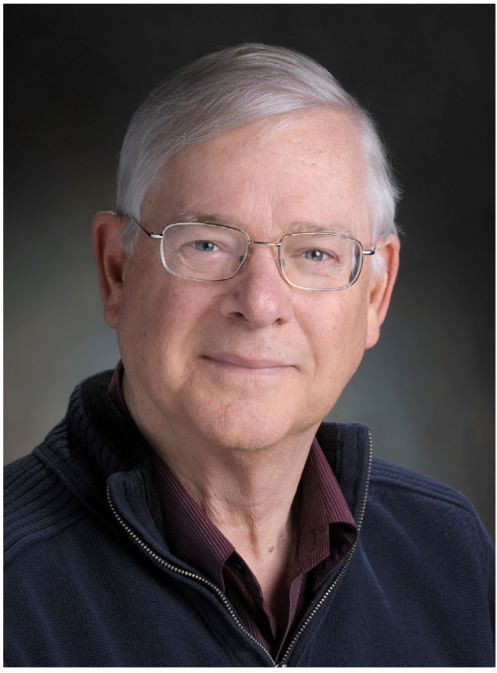
Gary Parker



Barbara Sanders



Cary Tsai



...the Statistics Workshop

Each time I give an update on the operation of the Statistics Workshop I seem to start by saying the same thing, 'This has been a very busy semester for the Workshop.' We have eighteen Graduate and Undergraduate students working as Teaching Assistants (TAs) helping about 1,200 lower division students with their assignments and classroom problems. This number includes fifty-five students that use the Student Learning Centre at the Surrey campus. Students use these facilities to consult with TAs about their statistics problems, to work alone or in groups on homework assignments and to work on their computing assignments. We have 20 computers for students use in the Workshop.

This semester (Spring) all students enrolled in the lecture sections of Statistics 100, 101, 201, 270 and 305 were welcomed to use the Workshop which was open on a 'drop in basis' from 8:30 AM to 6:30 PM weekdays with extended hours on Mondays and Tuesdays

to 8:30 PM. It was also open to students taking Statistics 201 and 270 in Surrey when they were on the Burnaby Campus.

The Workshop, K9516, is too small to accommodate these large numbers during the Fall and Spring semesters so we have been fortunate to be able to use part of an adjacent room (K9514) which is currently shared with the Department of Mathematics. With new space soon becoming available to be shared by the two departments we are 'hoping' to negotiate full use of K9514 on a long term basis. During the Summer Semester things quiet down a bit with about 600 students expected to take courses serviced by the Workshop.

If you have not seen our Workshop recently, please drop by any time (K9516 inside K9510) to have a look around and to chat with the TAs. For further information you can contact me at insley@sfu.ca or call me at 778-782-3805.

*Robin Insley,
Workshop Coordinator,
Department of Statistics and Actuarial Science*



...the Consulting Service

The Statistical Consulting Service continues its success on the Burnaby and Surrey campuses. Tom Loughin is the director of the Surrey consulting service and Ian Bercovitz is the director of the Burnaby consulting service. Marie Loughin has been consulting on projects on both campuses.

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 has also been a valuable asset to graduate students, giving them hands-on consulting experience and ties to local industry. Many faculty members have contributed their time to work on various projects.

The service operates on a cost recovery basis and approximately 50% of the revenues come from teaching initiatives at SFU, including graduate level statistical consulting courses Stat 811 and Stat 812.

Some recent projects with external clients include work with Bids Holdings on predicting trade successes in the US stock markets and estimating feeding times in Pacific salmon with the Department of Fisheries and Oceans Canada.

The number of internal consulting projects at SFU continued to grow last year with students and faculty members seeking statistical advice from the Departments of Education, Criminology, Biology, SIAT, Resource and Environmental Science and Political Science.

*Ian Bercovitz,
Director,
Statistics Consulting Service*



...the Surrey Campus

The Faculty of Science moved offices in May 2012 from the 14th floor of the Central City Tower downstairs to the second floor of the newly-renovated “Podium” space. Located immediately off the Grand Hall/Mezzanine, Podium 2 features new classroom space, Chemistry, Biology, Physics, and Kinesiology labs, and OFFICES WITH WINDOWS! The downside is that the lunchroom no longer looks out at Mount Baker, and Tom Loughin no longer has 334 stairs to climb in the morning.

Enrolments in Statistics classes are high. Surrey’s offering of STAT 350 this Spring has virtually the same number of students as Burnaby’s offering in the Fall. Roughly equal numbers of students in this class preferred having the class in Surrey, wished it had been in Burnaby, and didn’t care which campus it was on. Although it is true that over half of the students are

from programs housed in Burnaby, this shows the seamless nature of programming at SFU's campuses.

Please feel free to drop by for a visit. Tom or Dave will be happy to show you our new facilities! My office is: Podium 2: 2910 (Inside the Science Suite, 2905)

*Tom Loughin,
Professor and Surrey campus Statistical Operations Coordinator*

...the Management and Systems Science program

The Management and Systems Science program continues to produce excellent graduates ready to enter many different professions. Now the program has a dedicated student group, the MSSC Student Society, that plans social outings and other events to engage the current students and help them to build lasting relationships. This past year saw a kayaking trip at Deer Lake, a curling evening in New Westminster, and several pub outings. Alumni are welcomed and encouraged to attend some of these events, both for the fun of it and for the opportunity to get to know some of the bright young students coming along behind them in the program. Please contact the Program Director Tom Loughin (tloughin@sfu.ca) if you'd like to be notified of their next mixer event.

As always, alumni are welcomed and encouraged to return to the program via the MSSC 180/481 seminar class and tell the current students about their experiences since graduation. This year Ryan Quee and Joey Uljevic returned as speakers and gave interesting presentations on their work in business analysis and consulting. Please let Tom know if you'd like to be a speaker for the class. You probably remember how helpful it was to you — this is your opportunity to return the favour!

*Tom Loughlin,
Professor*

About Co-operative Education...

In 2011, Statistics and Actuarial Science Co-op welcomed 40 new students into the program and secured 64 placements with organizations locally, nationally and internationally.

Employers recruiting our co-op students include:

- Aon Hewitt
- AXA Financial
- Canadian Tire Financial Services
- Cardiome Pharma
- DA Townley
- Environment Canada
- GGY AXIS
- ICBC
- Manulife
- Mercer
- Morneau Sobeco
- Munich Reinsurance
- Pacific Blue Cross
- PBI Actuarial Consultants
- Research in Motion
- Statistics Canada
- Sun Life Financial
- Towers Watson
- UBC/MRL – iCapture
- WorkSafe BC

Statistics Canada and Pacific Blue Cross continue to be our largest employers; each hiring multiple students in each term.

Research in Motion (RIM) has recently increased its hiring of our students with five students travelling to Waterloo in 2011. The students joined various teams within the organization and took on roles such as Reliability Statistics Analyst and Process Quality Assistant. Vicky Weng worked for RIM in the Spring and Summer, and had this to say about her experience:

“My 8-month co-op term at RIM provided a rich source of experiences far beyond my expectations. I participated in co-op as I was curious about how statistics made a difference in the telecommunication industry and my term here presented me with a more than satisfying answer. I am amazed with the power statistics has when properly applied, particularly where the analysis is used to support and help ensure that the products delivered are of high quality. The people I worked with were friendly, professional and always answered my questions with great passion. If hardware engineering research, quality assurance or testing new technology appeals to you, I would highly recommend doing your co-op here.”

The Co-op Program is always exploring new opportunities for our students. If you have any connections or leads you would like to share, please feel free to forward them to the Co-op Coordinator.



Staffing Update:

There has been some transition in the Co-op Coordinator role and **Natalie Erickson** is now the main contact for the Statistics and Actuarial Science Co-op program. If you have any questions about the co-op program, please feel free to contact her. She can be reached at natalie_erickson@sfu.ca or 778-782-4654.

Undergraduate Awards...

Undergraduate Open Scholarships

Xiaoyu Bai 1114, 1117
Scott Brown 1117, 1121
Xuheng Chen 1114, 1117, 1121
Best Guo 1114, 1117, 1121
Jingjiao He 1114, 1117
Phillip Jang 1117
Shi Jin 1114, 1117, 1121
Jinwan Kim 1117, 1121
Yee Wai Kwan 1114, 1117, 1121
Jiayang Li 1117
Yunbo Lu 1117, 1121
Zachary Monteith 1117, 1121
Yejun Song 1117, 1121
Yueren Wang 1114, 1121
Yifan Xu 1114
Ka Yan Yiu 1117, 1121
Di Yu 1121
Yuwen Zhai 1114, 1121
Wei Zhao 1121

Faculty of Science Alumni Scholarship:

Jingjiao He 1114
Yee Wai Kwan 1114
Yueren Wang 1114

SFU Alumni Scholarship Fund:

Scott Brown 1117
Jingjiao He 1117
Shuai Yang 1117, 1121

J. Newton Robinson Memorial Scholarship:

Scott Brown 1121

Quadra Chemicals Ltd. Scholarship:

Scott Brown 1121

Alumni Association of the University of Hong Kong, British Columbia Award:

Isabelle Yi Jung 1121

April Allen Memorial Undergraduate Scholarship:

Brendan Engle
Diana Sirotic

R. Bruce Coles Memorial Scholarship:

Yunbo Lu
Tommy Yip

Pacific Blue Cross Scholarship:

Xiaoting Wang

SSC Endowment Award:

Jeffrey Ting

Statistics & Actuarial Science Endowment Award:

Xuheng Chen
Yuefeng Ji
Braden Rustand
Yueren Wang
Shuai Yang

Towers Watson Scholarship in Actuarial Science:

Yejun Song

Graduate Awards...

Provost Prize of Distinction:

Audrey Beliveau 1117-1134

President's Ph.D. Research Stipend:

Jorge Rodriguez 1117
Jean Shin 1117

Special Graduate Entrance Scholarship:

Kasra Yousefi 1121

Randy Sitter Annual Graduate Scholarship in Statistics & Actuarial Science:

Zheng Sun

NSERC PGS D:

Oksana Chkrebtii 1107-1134

NSERC CGS D:

Audrey Beliveau 1117-1134

MSc Graduate Fellowship:

Alexey Antonitsin 1117
(Ian) Tianyu Guan 1124
Andrew Henrey 1124
Dilinuer Kuerban 1121, 1124
Zhenhua Lin 1121, 1124
Rachel Lipson 1121, 1124
Jie Liu 1124
Olga Strizhkova 1117
Juan Valero 1124
Huijing Wang 1117, 1121, 1124
Lu Wang 1121, 1124
Qian Wang 1121, 1124
Tingting Wen 1121, 1124
(Lilian) Yu Xia 1121
Yuan Yu Yang 1124
(Rose) Meng Yu 1124

PhD Graduate Fellowship:

Jack Davis 1124
Joslin Goh 1124
Shirin Golchi 1124
Harsha Perera 1124
Zheng Sun 1124

Post Doctoral Fellowship Awards...

MITACS NCE Postdoctoral Research Projects Award (Supervisor Carl Schwarz):

Wendell Challenger

Faculty Awards...

Elected Fellow of the American Statistical Association:

Joan Hu

President Elect of the Business and Industrial Statistics Section of the SSC:

Tom Loughin

President Elect of the Biostatistics Section of the SSC:

Joan Hu

For more about awards please visit:
<http://stat.sfu.ca/people/awards.html>.

Departmental Events...

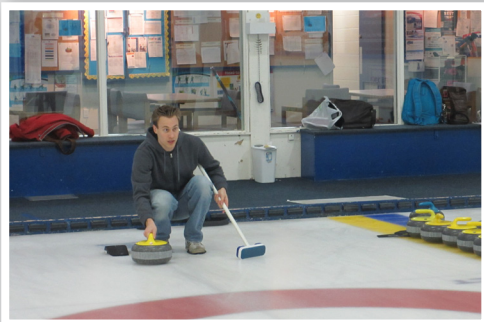
Information on who has graduated from our programs we proudly keep at: <http://stat.sfu.ca/people.html>.

Seminar Series:

The Departmental Seminar series continues to bring interesting speakers on a wide variety of topics. A full listing is available at: <http://stat.sfu.ca/research/seminars.html>. If you are interested in getting announcements about upcoming seminars, please contact the Department (stat_chair_sec@sfu.ca) to be added to the stat-sem email list.

We are happy to announce that our student association SASSA (Statistics and Actuarial Science Student Association) has been revitalized. They had their first social event. More about SASSA's activities in the next newsletter.

...and then some MSSC style curling comes



...the 2011 Awards/Graduands reception



...the Baseball Challenge



SFU Open House - Our Department...



SFU welcomed the world at its Open House on Saturday, May 26, 2012. With more than 100 interactive exhibits, intriguing presentations and engaging performances, guests of all ages were entertained the whole day long.

The Statistics & Actuarial Science Department had a Quincunx on display; we showed guests why the normal distribution occurs in nature and also how to reduce variability in a manufacturing process. We also demonstrated how we could collect data about a sensitive question ("Have you ever cheated on an exam?") without asking people directly (and hence protecting individuals' privacy).

A big thank you to all our volunteers: Tingting Wen, Zheng Sun, Xiaoxiao (Selina) He, Dexen Xi, Sonja Surjanovic, Summer Li, Nathan Nastili, Sven Haunerland, Tiantian (Tina) Yang. You helped to contribute to a great day!

*Rachel Altman,
Associate Professor
Statistics and Actuarial Science Open House Organizer*



The Strength of the Walking Club...



Sometimes Actuarial Science faculty (Yi Lu) do not like Statistics faculty (Tim Swartz). Actually, these are two members of the Department's Walking Club. Other regular members include Sadika Jungic and Joan Hu. The group goes walking several times each week at noon hour and is always looking for new members.