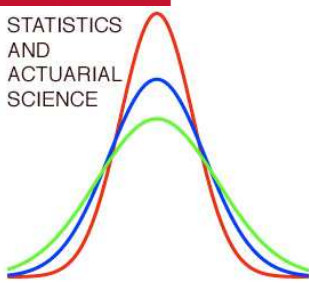


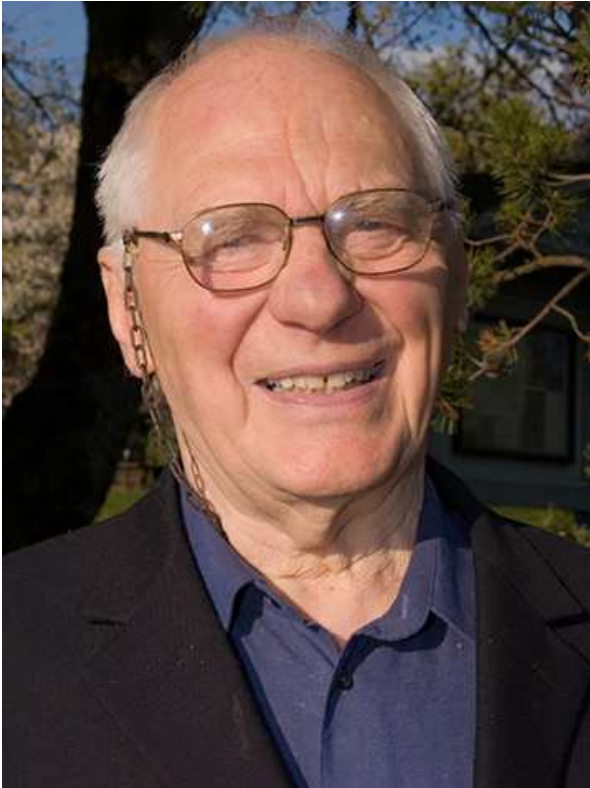
SFU

SIMON FRASER UNIVERSITY

STATISTICS AND ACTUARIAL SCIENCE

STATISTICS
AND
ACTUARIAL
SCIENCE

Newsletter2007



Professor Michael Stephens



Participants at the Conference in Honour of Michael Stephens (page 4)

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Editor's Note: This Newsletter covers events in the Department of Statistics and Actuarial Science during the calendar year 2007. A big thank you to all those who contributed news and articles and to Aruni Tennakoon for expert assistance with putting it together. A special thanks to our former editor, Larry Weldon, for his guidance getting started this year. Larry is currently keeping busy with enjoying his retirement, as evidenced by his contribution "“Second Life” – The Real Thing” (page 5) and his new appointment as editor of Liaison (page 19). – Jinko Graham

Some Words from the Chair



Dr Tim Swartz

Typically, the Chair's Report describes all of the great things that the Department has done, the great things that we are doing and the great things that we intend to do. Although again in 2007, the Department's accomplishments have been considerable, all of this has been overshadowed by a tragic event that occurred in the fall semester.

On a warm sunny day in September, our friend and colleague, Randy Sitter went on a kayak trip in the Lummi Island area in Washington state. Randy was an experienced kayaker, and he had intended to get some exercise and then do some work. He had brought his laptop along where he could catch up on some editorial duties and also listen to some music. Tragically, something went wrong and Randy was lost at sea.

Randy's loss to the Department has been enormous. Randy Sitter was a "star" in every sense of the word. As an academic, Randy was one of the very best statisticians in Canada and was an international leader in Sampling Theory and Industrial Statistics. He held many grants through which he supported and supervised a large cohort of graduate students. As a mentor, Randy helped to get the very best from his students and his colleagues, and did so in a caring and generous manner. He taught the Department to "think big". Randy came to us from Carleton University in 1995 and he helped grow and transform SFU Statistics into arguably the very best Statistics unit in Canada. It is an injustice to attempt to describe Randy's impact in a few short paragraphs; we anticipate that an academic session honouring Randy's memory and achievements will be held sometime in the future.

In making the uneasy transition from Randy Sitter to other Departmental news, I report that Larry Weldon retired at the end of August, having served as a professor at SFU since 1978. Larry's main academic interest was Statistics Education, and Larry was a very helpful and happy colleague always willing to contribute to administrative duties that others were reluctant to pursue. Larry has visited the Department several times since his retirement. One notable visit had Larry bicycling from his home in Tsawwassen to SFU. I think Larry can now cross that one off of his to-do list.

In other news, the Department hosted a conference in April in honour of Michael Stephens' 80th birthday. This was a great celebration with people coming from afar to honour Michael and his work. The Department thanks Charmaine Dean and Richard Lockhart for organizing the event. A conference website with photos can be found by linking to www.stat.sfu.ca/assessment

This year, the Department has added two faculty members, both recent PhD's from McGill University. Jiguo Cao joins the Burnaby unit as another piece to our Biostatistics core. Jiguo's expertise is in Functional Data Analysis and Statistical Genomics. At our Surrey campus, David Campbell joins Tom Loughin to bolster our Statistics presence. David has expertise in Dynamic Systems and Smoothing.

The Department has done remarkably well this year with appointments of PhD students. Pritam Ranjan has been appointed to a tenure-track position at Acadia University, Jason Nielsen to Carleton University and Crystal Linkletter to Brown University. SFU Statistics is making its mark by populating universities with its graduates.

As for me, my term as Chair is really "Acting Chair", an 8-month window between the three-year terms of Rick Routledge and my successor, Richard Lockhart. As other Chairs have mentioned, I welcome you to keep in touch with us. We love to hear what you are doing and any ideas that you might have to keep us connected.

From the Department Manager



Sadika Jungic

Possibly, you may have already noticed one change that occurred during the 2007 calendar year. The Faculty of Science, like some other Faculties, has decided to change the title of the Departmental Assistant to Manager, Administrative and Academic Services. I am still getting used to the new title. However, do not worry; the good old DA will still be around for a while in the minds and vocabulary of faculty and students.

From an administrative perspective the Department, for the first time in its history, has faced a total turn over within the realm of academic duties; all of our Academic Chairs are new: the Acting Chair for the period September 1, 2007 to April 30, 2008 is Tim Swartz, the Graduate Chair is Brad McNeney and the Undergraduate Chair is Robin Insley. I believe that I am not the only one who finds this time challenging.

In the academic field an important change is that the Management and System Sciences Program which, since the Department was created, used to alternate between our Department and the Department of Mathematics, has currently been transferred to the Surrey Campus. We wish good luck to this program and Tom Loughin who will be leading it.

It would not be an exaggeration to say that 2007 was a year of parties in the Department of Statistics and Actuarial Science. We celebrated Michael Stephens' 80th birthday and the Conference organized to honor this important milestone in Michael's life. We wished all the best to Larry Weldon who has happily retired and has been looking forward to enjoying his time and travel. We also partied this summer with Rick Routledge as his Department Chair term ended.

The departmental Christmas party, the last party of this year, was a great success thanks mainly to our wonderful and imaginative graduate students.

In our previous newsletter, the last one edited by Larry Weldon, I was complaining about the lack of office space. Well, it seems as though the elves have heard our lament so the Department has been allotted three offices in the West Mall Complex. Now we have been brainstorming what would be the best way to use such remote office space. So, be careful what you wish for...as the old saying goes.

This past Fall Semester the Department has initiated 'Tea Time' on Tuesdays at 10:00 in the Lounge. The idea has fallen onto a very fertile ground; the 'Tea Time' has been a great success. Faculty, graduate students, staff and guests have been meeting, talking and enjoying the time. I can say that quite a bit of noise gets produced there (my office is right across the hallway) which is a very good sign.

Again, please come and join us during our tea time; we offer coffee and cookies, too!

Best Regards,

Sadika

Conference in Honour of Michael Stephens' 80th Birthday

Statistical Distributions and Models: Assessment and Applications April 19/20, 2007 SFU

SFU's conference on Statistical Distributions and Models: Assessment and Applications on April 19th and 20th this year was dedicated to the areas of Model Assessment, Goodness-of-Fit and Directional Data, all areas of specialization of Professor Michael Stephens of Simon Fraser University whose 80th birthday was celebrated at the conference dinner. The opening talk, given by Professor David Brillinger of the University of California at Berkeley, was a PIMS Distinguished Lecture; it was titled "A unified approach to modelling trajectories" and described the use of stochastic gradient systems for modelling particles in motion. The ideas were applied to movements of animals such as elk, deer and seals and to the movement of ball in a soccer game.

Other speakers were: Louis-Paul Rivest, Université Laval, gave a talk entitled A directional model for the determination of the anatomical axes of the ankle joint in which data consisting of a sequence of rotation matrices were analyzed to determine the axes of rotation of the foot relative to the shank; Jerry Lawless, University of Waterloo, spoke on Some Challenges in Assessing Goodness of Fit and provided a thoughtful review of open problems in the area of goodness-of-fit; Richard Lockhart, Simon Fraser

University, whose talk was simply titled Michael and me gave a largely historical talk touching on Michael Stephens' work and personal history; John Spinelli, B.C. Cancer Research Centre, reviewed work on problems of assessing models for discrete data such as commonly arise in large epidemiological studies in a talk titled Goodness-of-fit for Discrete Data; Federico O'Reilly, Universidad Nacional Autónoma de México, spoke on recent work on the development of exact tests of models by conditioning on sufficient statistics, and on methods to implement such tests, including Markov Chain Monte Carlo, in his talk: Avoiding Asymptotics in Goodness-of-Fit; John Petkau, University of British Columbia, discussed the measurement and evaluation of the progression of multiple sclerosis using the Extended Disability Status Scale in Stage III clinical trials and presented new methods to make more effective use of the longitudinal data arising in such trials. His talk was entitled Evaluating Progression in Multiple Sclerosis Clinical Trials; Ted Anderson, Stanford University, wrapped up the conference with a presentation on an important topic in Econometrics arising in simultaneous equation models: Likelihood ratio tests in reduced rank regression and blocks of simultaneous equations.

Reflecting Professor Stephens' strong commitment to mentoring young researchers, the conference was preceded by a meeting on the Thursday morning for new researchers in the Pacific Northwest, organized by Laura Cowen of the University of Victoria and Matias Salibian-Barrera from the University of British Columbia. Seventeen new researchers from the region attended. It featured a round table discussion devoted to providing guidance to the Statistical Society of Canada as to how that society might better serve new researchers, general discussion on the needs of new researchers in BC, on research and publishing, on teaching resources, on how to create professional links with industry, on ways to connect and be mentored by a senior researcher, and on ways new researchers in the region might more easily interact. Researchers found the meeting to be very useful, and the large turn-out reflected and emphasized the need for these sorts of networking activities.

The conference on Statistical Distributions and Models attracted 150 attendees including participants from universities and agencies throughout Canada, and from the USA, Spain and Mexico.

Richard Lockhart and Charmaine Dean, Conference Organizers

"Second Life" – The Real Thing

What do you do when you have no teaching to prepare, no commuting to organize, no committee meetings to attend, and no administrative work to process? Research, of course! For me, that involves preparing talks for conferences, giving workshops or one-off lectures, and arranging travel and those pleasant side trips associated with these research activities. For someone who always spent a lot of time preparing lectures from scratch, commuting from Tsawwassen, and doing a lot of committee and administrative work, the change has made a big difference to the time available for the research I especially like.

My last pre-retirement teaching was in the Spring of 2007. Since then I presented papers to the Joint Statistical Meetings in Salt Lake City, the International Association for Statistics Education in Guimaraes, Portugal, the International Statistical Institute in Lisbon, and the Slovenian Statistical

Society in Ribno, Slovenia. Naturally, I took advantage of the venues to explore the area – hence the pictures attached.



Douro Valley in north Portugal



**Salema in the
Algarve**



Predjama in Slovenia

One thing that I always look forward to is immersion in a programming problem, especially if it involves simulation. It is like creating a physical system that can only be studied by supplying inputs and observing outputs – a bit like science. But it is "science" that does not need any physical labs, expensive equipment, data-base construction, research assistants, or round-the-clock observation – just an ordinary computer. Even library resources are largely available via my computer. So I can do the work anywhere, anytime, which suits my unscheduled life perfectly. Many self-help books talk about the importance of focus on goals, but I tend to drift with the current, being ready to take advantage of opportunities as they arise. My ten-year experience with the SFU Indonesia project was an example of such an opportunity. My loose retirement plan has allowed me to accept editorship of *Liaison*, and this is an excellent way to stay in touch with statisticians across Canada.

To get back to the above-mentioned simulations that are my passion, I think it is a technology that is undervalued in statistics. The procedure goes like this: one observes a phenomenon of unexplained variation (or perhaps poorly understood variation) from real life and constructs a simulation model to mimic the observed variation. Some quantitative measures of output of the real system are used to calibrate the model. The success of the model can be partially assessed by how well the unexplained variation is reproduced by the model. This step typically involves some nice graphics. If this step is successful, then the model can be useful for studying the real system. I have used this approach to model fishing productivity, traffic flow, stock market trends, investment diversification, insurance company viability, mutual fund performance, and sport league behavior, among others. How does one retire from such entertaining material? Not willingly!

My plans for the future include more academic travel – for 2008, an R workshop at UNBC in Prince George, the SSC in Ottawa, more workshops in Stat Ed in Melbourne and Brisbane, the JSM in Denver, and in 2009, possibly the ISI in Durban. My SFU visitor Andrej Blejec is organizing the eighth ICOTS conference in Ljubljana in 2010, so I hope to go to that one as well. I have not had to deal with the abrupt divorce from work-life that many retirement consultants emphasize, and this is fortunate for me. Many wives inherit the task of entertaining their husband all day long after the husband has retired. This has not been necessary in my case, and this is a good thing since my wife Jill is quite involved in art quilting, watercolor art, the book club, and other community activities, which keep her engaged when we are not traveling.

Of course, retirement is not all academic work. One has to work on one's health as well. For me, this primarily involves cycling. In bad weather, I have to choose between cycling in spite of the weather, or

going to my Bayside Club to exercise on the elliptical machine (since my knees can't take jogging). Golf is another fair-weather option. When the weather turns ugly, I have my indoor pastimes to amuse me, such as cooking and entertaining with excellent dinners.

Just before leaving for Portugal in August, I had a surprise visit from my five children, including my daughter Laurel with her family from Lafayette, Indiana, and my son Kaljo from Halifax. That was a well-timed reminder that, although brought up as an only child, I now have a growing family to figure into my retirement activities. Here is one picture of the group (Allison, KLW, Jill, Audrey, Christine, Laurel, Kaljo, Aaron and in front, Zeddy and Katie).

I'll close with a comment on the warm send-off retirement party at the DUC in May. Among the many kind words I received that day were the comments from my long-time colleagues, Rick Routledge, Richard Lockhart and Michael Stephens. Rick was instrumental in presenting me with a fine set of golf clubs, which I am trying to learn how to use, with variable success (another example of "unexplained variation"). Richard had some nice words about my squash prowess, which I stopped playing recently when a game with my daughter had me in agony for several days. And Michael had many



anecdotes, but the most memorable comment to me was that I was the "gadfly" in the department. After I looked up what that meant (wiki: "one who provokes others into action by criticism"), I decided it was a great compliment since it suggested that my complaints about our undergraduate teaching curriculum might have some effect. I did enjoy the party, and am grateful to all who attended.

Larry Weldon

New Additions to the Department

Dr. Dave Campbell

While studying environmetrics in his undergraduate degree at SFU, Dave Campbell took an interest in the cyclic population patterns of the raccoons and coyotes living outside his home, in residence atop Burnaby mountain. After leaving SFU to focus on graduate work in Statistics at Dalhousie and McGill Universities, Dave returns to SFU with a new found interest in those furry woodland critters. The raccoon and coyote dynamics represent a potential link between his passion for environmental problems, with his latest research in statistical inference for the differential equation models describing dynamic

systems. Dave is currently foraging Burnaby Mountain and Surrey for interdisciplinary contacts to feed his hunger for data and new applications for his methods. Dave is also researching time-frequency analysis, functional data and computational Bayesian methods.



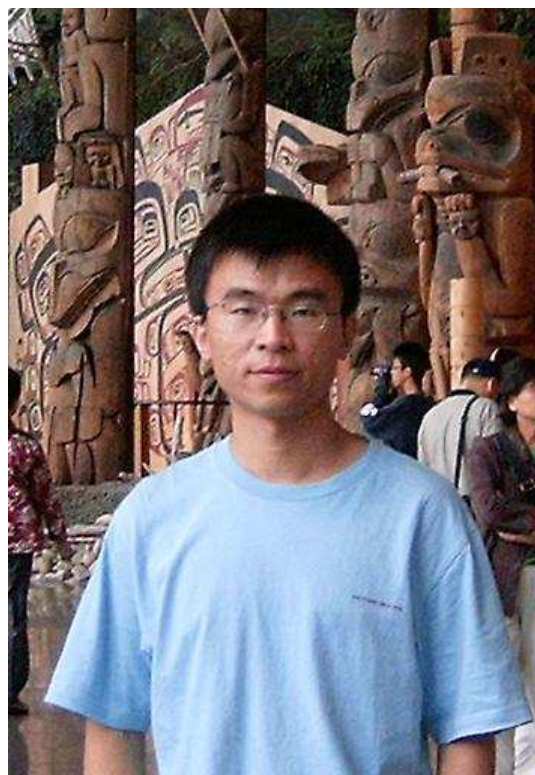
Dave with his family

Dave originally left BC with a fiancée and returned this summer with a bride and two toddlers. In his spare time in the warmer months Dave is often found exploring the woods with his family or experimenting with making new ice cream flavours. This winter Dave discovered the sport of curling, where once a week he gets together with friends to fling rocks across ice sheets.

Dr. Jiguo Cao

Jiguo Cao started a tenure-track assistant professor position at the Department of Statistics and Actuarial Science in June, 2007. He entered the PhD program at McGill University in August, 2003, and worked on functional data analysis (FDA) with his supervisor, Dr. James O. Ramsay. After he received his PhD degree in statistics in 2006, Jiguo joined the lab of statistical genomics and proteomics at Yale University. He worked with Dr. Hongyu Zhao modeling gene regulation networks with differential equations.

FDA is a fast-growing field of study that addresses the analysis of information on curves or functions. As an example, FDA can be useful for analyzing growth curves of children that are constructed based on body height measurements made over some specific growing period. In this example, FDA would treat one growth curve as one functional data entity. Without any assumption on the parametric forms for growth curves, the discrete measurements for body heights can be transferred into a continuous curve by nonparametric smoothing. With FDA we study many important features of curves such as growth rates, which are derivatives of growth curves. In fact, it is the many uses of derivatives that are the central theme of FDA. Jiguo is interested in a general area of FDA. Particularly, he is working on two fundamental and major topics in the area of FDA: the development of the generalized profiling method and estimation of semiparametric additive models and



Jiguo Cao

differential equations. Already starting exciting collaborations with several faculty members and students, Jiguo is looking forward to finding new collaborators within and outside the department.

Jiguo is currently teaching Stat 890, functional data analysis. He hopes the students can learn the general areas of FDA such as nonparametric smoothing, generalized additive models, functional linear regression and functional principal component analysis. The students are also welcome to bring their own related problems and find the solutions as their final projects for this course.

Jiguo has a good time on the faculty basketball team, and hopes he will improve some basic skills and not miss all the shootings any more in 2008.

New addition to Cary Tsai's family



Daughter Jennifer with new sister Jessica

Cary's daughter Jennifer, born on October 11, 2002, is attending kindergarten. Her hobbies include drawing, dancing and singing. Jennifer does not like scary things, but she likes to eat chocolates and be a beautiful princess.

Jennifer's new sister Jessica, born on April 9, 2007, can crawl and sit upright now. Jessica's only hobby is to crawl around to find something interesting, and taste it. She always likes to stay in mother's arms.

New Addition to Rachel Altman's Family

Yoav Altman FINALLY decided to greet the world on Oct. 8, 2006 -- just in time for some Thanksgiving turkey.

He was a huge 10lbs 2oz and 54 cm long. He has grown even bigger in the last year, and is now into EVERYTHING.

His favourite hobbies are destroying, dismantling, and generally creating as much chaos as possible. He is a giant flirt and charms the objects of his affection with his expressive nature and a smile that lights up the world. He is obsessed with Cheerios, lights, water, and making tea. He dislikes not getting his own way!



Rachel and son Yoav

News from the Statistical Society of Canada

The Statistical Society of Canada is a professional home to statisticians throughout Canada. The society provides opportunities for members to learn about new statistical techniques or to hear engaging and high-profile speakers discuss the state-of-the-art in the discipline and how statistics is brought to bear in forestry, in climate change, in medical research, genetics, ecology and many other areas.

The society also supports its members through the posting of job opportunities. Several awards recognize excellence in the membership including awards specifically for students and young researchers, and awards for the impact of applied and collaborative work. Through the society you maintain your professional ties, keep your skills up-to-date, stay in touch with colleagues, and make your voice heard on statistical issues.

The society offers accreditation for its members. Accreditation is a designation that indicates the holder has achieved an acceptable level of competence in the understanding and application of statistical methods and is bound by a Code of Ethics. There are two levels of accreditation: Professional (designated as P.Stat.) and Associate (designated as A.Stat.). Applications are accepted twice annually – for information on deadlines and the benefits of accreditation, including mentorship opportunities, see http://www.ssc.ca/accreditation/documents/accreditation_e.pdf

The society website www.ssc.ca displays the host of activities with which the society is involved. The society has four Sections which offer particular focus in Biostatistics, Business and Industrial Statistics, Survey Methods and Probability. Our website provides information on the Sections and how to join them as well as information about our annual meeting, including the special events and workshops offered at the meeting. In 2008, the annual meeting will be held in Ottawa and will be held jointly with the French statistical society; in 2009 the meeting comes to Vancouver.

Charmaine Dean
President, Statistical Society of Canada

News from the Faculty of Health Science

The biostatistics group in Faculty of Health Sciences continues to grow with the successful recruitment of another junior biostatistician, Lawrence McCandless. Currently a PDF in the Department of Epidemiology and Public Health at Imperial College, Lawrence will start the appointment in Aug. of 2008. FHS is in the process of filling a senior biostatistician position (the Milan and Maureen Ilich\Merck Frosst Chair in biostatistics for arthritis and musculoskeletal diseases). The faculty plans to recruit eight new faculty members in 2008, and one of these positions is in Spatial Perspectives in Public Health. Charmaine Dean is on the hiring committee for this position. The data warehouse for health information with access to all vital statistics data in BC is currently under development. At the same time, Michael Hayes at FHS is leading a proposal for a Statistics Canada Regional Data Centre branch at SFU Burnaby campus. Access to these data will be made available through a secure data facility in the new FHS building, Blusson Hall, which will be open in May 2008.

LeiLei Zeng

News from Actuarial Science

Actuarial Science at SFU continues to be strong. The undergraduate program welcomed 27 new students in 2007. Despite the small number of actuarial faculty members, we have been able to offer all core courses at least once this year. With the help of highly qualified sessionals we also had a regular offering of upper division elective courses, selected topics and reading courses. The co-op program is doing really well. The number of positions available each semester, locally and across the country, is on the rise. Feedback from employers is very encouraging and co-op students are quickly building a strong reputation for our actuarial program. Three students won NSERC-USRA awards to work on actuarial projects during the summer of 2007. Kailiang Chen and Feng Gao studied optimal pricing strategies while De Hu worked on Bonus-Malus systems.

At the graduate level, Ruowei Zhou defended her Master's project "Actuarial and Financial Valuations of Guaranteed Annuity Options" last summer. We had 5 students joining our MSc program in Fall 2007.

Fanny Lin from Feng Chia University, Taiwan, is visiting our department for a year. She taught a course on the mathematics of demography to a group of fourth year students.

All approved VEE courses in Economics, Corporate Finance and Applied Statistics have been renewed until 2010. Students will therefore continue to get professional credits for courses taken at SFU.

Faculty members and graduate students have given presentations at various conferences such as the ASTIN Colloquium, AFIR Colloquium, Canadian Institute of Actuaries annual meeting, International Workshop on Risk Theory, Shanghai-Hong Kong Insurance and Actuarial Forum, to name a few. Gary has been elected as a member of the Education & Research Section of the SoA.

Finally, the April Allen Memorial Endowment Fund was created by a generous donation of \$100,000 from Cheri and Harvey Mason, principals at D.A. Townley & Associates. The donation was matched through the Burnaby Mountain Endowment Fund for a total of \$200,000. April, an adventurous woman, was an actuary who spent eleven years working as a pension consultant for D.A. Townley. She often hired Actuarial co-op students to assist her in her work and thought very highly of our program and the quality of its students. In 2006, April lost a long battle with breast cancer. The income earned from the Fund will be used to provide up to two scholarships annually. Eligible students must be within one year of admission into Actuarial Science, demonstrate excellence in academic performance and a high potential for success in the field. Preference is given to students who have personally been affected by cancer and/or worked with organizations involved in cancer research and care. The scholarship(s) will be awarded for the first time in Spring 2008.

Gary Parker

News from the Consulting Service

The Statistical Consulting Service has flourished since its inception under founding coordinator Larry Weldon in the early 1980's. 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 Statistical Consulting Service has a full time director (Ian Bercovitz) who is a qualified statistical consultant. All statistical faculty members in the Department of Statistics and Actuarial Science have contributed to the success of the service; their combined experience includes a full spectrum of statistical application areas as well as a broad coverage of statistical techniques. The service has also been a valuable asset to graduate students, giving them hands on consulting experience and ties to local industry.

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, and short courses for the Ministry of Environment given by Carl Schwarz.

Some recent projects include environmental impact studies for BHP Billiton, monitoring Dioxin Furan and PCP levels in crabs for the Ministry of Environment, and a comparative analysis of fire fighter and police constable salaries for the IAFF union. SFU graduate students from many disciplines also come to the Statistical Consulting Service for advice on their thesis projects. Approximately 40 to 60 students and faculty members a year come through the consulting service for statistical advice.

Revenues over the past 10 years are approaching the million dollar mark and we have recently expanded our operations to the Surrey campus with the additions of Marie Loughin and Tom Loughin. Tom will be coordinating academic initiatives and Marie will be developing the Surrey branch of our Statistical Consulting Service.

Ian Bercovitz

News from the Statistics Workshop:

This was a very busy semester for the Workshop, with about 720 students encouraged to use it and fourteen Teaching Assistants available to help them. We were so busy that we needed to expand the facilities to include the adjacent room, K 9514, which is set up for the use of mathematics and statistics graduate students. Tim Swartz and Tom Archibald, Mathematics Chair, agreed to let us use this room as part of the Workshop during peak times. We appreciated the cooperation of the Mathematics Department.

This semester all students enrolled in Statistics 201, 203, 270 and 302 could use the Workshop (K 9510), which was open on a "drop in basis" from 9:30 A.M. to 4:30 P.M. most weekdays. It was also open to students taking Statistics 100 and 201 in Surrey when they were "north of the river." Students use this facility to consult with TAs about their statistics problems, to work alone or in groups on homework assignments, and to do their computing assignments. We have 20 PCs for students to use. In the spring semester we are expecting a total enrollment of about 600 students registered in Statistics 101, 201 and

270 in Burnaby, and about 75 students in Statistics 203 and 270 at the Surrey campus, to use the Workshops.

We have recently expanded the role of the Workshop to include those students taking statistics courses at the Surrey Campus. Cynthia Wright manages the Yosef Wosk Student Learning Commons (room 3695) here, which is used as a Workshop for the Mathematics Department. For the past two semesters she has allowed, and encouraged us, to place a teaching assistant in this room for several hours each week to service our students. I hope this will continue until the Statistics Department has enough students enrolled at Surrey to warrant our own Workshop.

If you have not seen our Workshop recently, please drop by any time (K9510 inside K9516) 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

News from the Surrey Campus

Tom Loughin reports that the Management and Systems Science program has moved out of Statistics and Actuarial Science and is now considered a program of the Faculty of Science at Surrey. This move gives the program increased visibility on the new campus (it takes fewer clicks to find it on the webpage). Recruiting into the program is on the upswing among students already enrolled at SFU. He is optimistic that incoming first-years will also recognise the program's appeal. A key feature of the MSSC program is the MSSC Seminar, which brings individuals from business and industry onto campus to talk to the students in the program about their professional experiences. This fall featured two alums, Kseniya Stepanova (MSSC) and Soyeon Kim (Stat) returning to share their "real world" experiences. If you would like to visit the beautiful Surrey Campus and talk with some interested MSSC students about your work, please contact Tom (tloughin@sfu.ca). He'd be happy to hear from majors from all of the department's programs.

Tom also reports that demand for Statistical Consulting services on the Surrey Campus is on the rise, as evidenced by visits from four different researchers from the School of Interactive Arts and Technology in November.

Tom Loughin

Departmental Seminars 2007

Date	Speaker	Title
01/19/2007	Randall Peterman, Simon Fraser University	Spatial scale of covariation in survival rates of Pacific salmon: Implications for environmental drivers of variation, management models, and monitoring designs.
01/26/2007	Melissa Dobbie, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia	Statistics Down Under: the lay of the research land in CSIRO Mathematical and Information Sciences
Special Seminar: 01/26/2007	Derek Bingham, Simon Fraser University	Sequential Experiment Design for Contour Estimation from Computer Simulators (CSC/PIMS Seminar)
03/16/2007	Michael Evans, University of Toronto	What is a Bayesian Statistical Analysis?
03/23/2007	Doug Nychka, National Center for Atmospheric Research	A framework to understand the asymptotic properties of Kriging and splines
03/30/2007	Cari Kaufman, Statistical and Applied Mathematical Sciences Institute and National Center for Atmospheric Research	Efficient Emulators of Computer Experiments Using Covariance Tapering
04/13/2007	Chris Bilder, University of Nebraska	Cylon Detection Through Group Testing
04/16/2007	Vera Pawlowsky-Glahn, Universitat de Girona	The statistical analysis on coordinates in constrained sample spaces
04/27/2007	Michael Woodroffe, University of Michigan	Shape Restricted Estimation - In the Search for Dark Matter
09/14/2007	Arden Miller, University of Auckland	Using Supersaturated Designs for Screening Applications
10/12/2007	Fanny Lin, Feng Chia University	Wavelet-based Forecasting of Mortality Improvement Rates at Advanced Ages
10/26/2007	Jiahua Chen, University of British Columbia	Extended Bayesian Information Criteria for Model Selection with Large Model Spaces
11/02/2007	Guangzhe Fan, University of Waterloo	Kernel-Induced Classification Trees and Random Forests
11/26/2007	Bovas Abraham, University of Waterloo	Gamma Stochastic Volatility Models
11/30/2007	Raphael Gottardo, University of British Columbia	Statistical challenges in high-throughput chromatin immunoprecipitation assays
12/07/2007	Jiahua Chen, UBC and Tom Loughin, SFU	Joint SFU/UBC and BRG seminar
12/14/2007	Jeffrey S. Pai, University of Manitoba	Temperature Derivatives Using Forecasts of Vector ARFIMA Processes

SFU / UBC Graduate Seminars

The sixth semi-annual, joint UBC/SFU graduate student workshop in Statistics was held on Saturday November 24th, 2007. The SFU speakers were Derek Bingham (Title: Statistical Research in a

Collaborative Environment), Cindy Feng (Title: Confidence intervals for proportions and quantiles with application to NHANES), Lihui Zhao (Title: Statistical Monitoring of Clinical Trials with Multivariate Response or Multiple Arms Using Repeated Confidence Bands), Chunfang Lin (Title: Designs for Computer Experiments).



Joint UBC/SFU Graduate Student Workshop in Statistics at IRMACS Theatre



Dinner at Himalayan Peak, SFU

The UBC speakers were Pen Yu (Title: Median Loss Analysis), Luke Bornn (Title: Prior Sensitivity and Cross-Validation using Sequential Monte Carlo), Paul Gustafson (Title: The Publication Process in Statistics), Justin Harrington (Title: Finding approximate solutions to combinatorial problems with very large datasets using BIRCH).

Matt Pratola

Clippings

Routledge Fish Research Featured in AQ Magazine

November 2007 AQ magazine

By Carol Thorbes

Rick Routledge is helping identify a vexing problem. Along with Alexandra Morton, an independent fish biologist in B.C., and scientists elsewhere, Routledge has produced four startling studies that have been published in three leading journals, including *North American Journal of Fisheries Management*. These studies show that sea lice in the Broughton Archipelago's ocean-based salmon farms are killing nearby migrating juvenile pink and chum salmon in droves.

After years of trying to get decision makers to act on these findings, Routledge and his colleagues finally caught the ear of the special provincial committee on sustainable aquaculture. Routledge included these key points in his presentation to the committee of MLAs:

- Field experiments show that sea lice from fish farms are killing up to 95 per cent of juvenile salmon migrating past the farms.
- The federal and provincial governments should begin ratcheting down ocean-based fish farm production and eventually phase out the industry if its threat to wild salmon populations isn't reduced to an acceptable level.

Routledge believes his ability to get the attention of politicians in a public forum will encourage decision makers to see the research as more than just another fish story.

“We made the committee aware of European studies that support our research, and we showed that elevated sea lice levels exist around salmon farms outside of the Broughton Archipelago,” says Routledge. “We also countered all of the persistent criticisms of our research, and we drew attention to substantial conservation concerns associated with both existing farms and proposed expansions farther north.”

Routledge Slams Fish Farms

November 16, 2006, Volume 37, No.6

By Carol Thorbes

Rick Routledge, coastal fish-farm opponent and SFU fish population statistician, testified at the B.C. government's special committee on sustainable aquaculture in Vancouver in October. He drew on five years of collaborative research with independent fish biologist Alexandra Morton to warn about the impact of sea lice from sea-based fish farms on migrating juvenile salmon.

Among his observations:

- Four studies by Routledge and Morton, published in peer-reviewed scientific journals, show collectively that sea lice from Broughton Archipelago fish farms are killing up to 95 percent of juvenile salmon migrating past them.
- The federal and provincial governments should begin ratcheting down ocean-based fish farm production and eventually phase out the industry if the threat to wild salmon populations isn't reduced to an acceptable level.
- Antibiotics are not an effective long-term solution because sea lice become resistant to the drugs and they may be harmful to humans eating salmon treated with them.

Department of Fisheries' perspective on sea lice

Canada's department of fisheries and oceans (DFO) and the B.C. agriculture and lands ministry's fisheries and aquaculture section jointly establish and police provincial aquaculture-management regulations. According to their websites:

- DFO research does not support the close link reported by some researchers between salmon farms, sea lice and the loss of wild salmon.
- Anti-parasitic chemicals are only administered to farmed salmon when a farm sea-lice outbreak is confirmed and it threatens the health of farmed and/or wild fish. Many farmed salmon are never treated.
- Sea-lice treatments are limited and strictly controlled and do not threaten marine organisms, the aquatic environment or humans consuming treated fish.

Salmon farming by the numbers

- Aquaculture's growth ranking in the global animal food-producing sector: 1st
- Canada's ranking in world farmed-salmon production: 4th
- Number of salmon farms in B.C.: 136
- Number operating at any one time: 85
- B.C. farmed salmon produced in 2005: 1.3 million
- Net value to B.C. producers: \$318.6 million

Simon Bonner Wins Award at ACCELERATE BC Internship Showcase

Simon Bonner wins the award of Excellence (Natural Resources) for work done on a recent MITACS internship project: “Sampling plans and analysis strategies for environmental assessment of diamond mine impacts in northern Canada” with ResCan.

Matt Pratola Wins Second Prize for Poster Presentation at 2007 JSM

Matt Pratola has been selected as the recipient of second prize for the Outstanding Poster Presentation at the 2007 Joint Statistical Meetings in Salt Lake City. The Section for Physical and Engineering Sciences of the American Statistical Association awarded the prize for Matt's poster "Design on Non-convex Regions: Optimal Experiments for Spatial Process Prediction with Applications to Industrial Processes".

Laurie Ainsworth Starts New Research

Many coastal sockeye salmon populations have declined over the past couple of decades. The most spectacular of these occurred in Rivers Inlet on the Central Coast of British Columbia. Under the supervision of Rick Routledge and in collaboration with Jiguo Cao, Laurie Ainsworth is currently pursuing post-doctoral research which aims at uncovering potential explanations for these declines. She is using functional data analysis to investigate the impact of weather changes on the marine survival of Rivers Inlet sockeye salmon.

Dean Awarded 2007 ASA Fellowship

New ASA Fellows

Christian Genest (Université Laval; SSC President)

SSC LIAISON

Vol 21, No 4 October 2007

The American Statistical Association announced on July 31 the election of 59 new ASA Fellows at the Joint Statistical Meetings that were held in Salt Lake City. Among them were five people with obvious Canadian ties: Charmaine B. Dean (Simon Fraser University), Nicolas W. Hengartner (Los Alamos National Laboratory), Michael A. Newton (University of Wisconsin), Therese A. Stukel (Institute for Clinical Evaluative Sciences, Toronto) and Yannis Yatracos (National University of Singapore). For the past 93 years, fellowship in the ASA has recognized outstanding contributions in the field of statistical science.



ASA President Mary Ellen Bock and Charmaine Dean

A searchable list of ASA fellows is available at www.amstat.org/fellows/index.cfm?fuseaction=main. During the same ceremony, two Canadian statisticians also received certificates of appreciation for their recent work as Editors of ASA publications: Randy R. Sitter (Technometrics, 2005-2007) and George P. H. Styan (Current Index to Statistics, 2000-2007).

Congratulations to all award winners!

Linkletter and Bingham Awarded Jack Youden Prize

Drs. Crystal Linkletter (now an Assistant Professor at Brown University), Derek Bingham and their collaborators were awarded the Jack Youden Prize for the best expository paper in Technometrics in 2006. The award was presented at the 2007 Fall Technical Conference of the American Statistical Association and the American Society for Quality. Their paper, "Variable Selection for Gaussian Process Models in Computer Experiments", develops new methodology for identifying important experimental factors in Gaussian process models used for emulating complex computer simulators. Their collaborators are on the research were Dave Higdon and Nicholas Hengartner (Los Alamos National Lab) and Kenny Q. Ye (Albert Einstein College of Medicine).



Dr Derek Bingham

Weldon Named Editor of Liaison

Excerpt from SSC LIAISON

Vol 21, No 2-3 May-July 2007

Over the past month, our Past-President, Charmaine Dean, has worked hard to secure a new editor for *Liaison* and we are happy to report that Larry Weldon of Simon Fraser University has agreed to take on the task for three years commencing with the October 2007 issue. We welcome Larry to the post and are confident that he will prove to be a very successful editor. Larry has a wealth of experience in similar positions for the International Association of Statistical Education as well as publishing the Departmental Newsletter for SFU's Department of Statistics and Actuarial Science. His interests in statistical education and students coincide with some of the recommendations of Nancy Heckman's Committee on SSC Priorities

Department Food Drive

The SFU Food Bank offers support for students and families in need. The food bank is located in the Maggie Benston Building, Burnaby campus. It is operated by a student food bank coordinator and volunteers.

The SFU Food Bank is supported by the Simon Fraser Student Society and the Student Development and Programming Centre. The Food Bank accepts donations in green boxes located around campus, including the Student Development and Programming Centre (MBC 2000) and the Student Society General Office (MBC 2200). Non-perishable food and personal hygiene items as well as cash donations are gratefully received. You may visit <http://www.sfu.ca/studentlife/community/foodbank> to see more information.

In a recent SFSS survey, 29% of international graduate student parents reported using the food bank over the last six months versus 7% of domestic graduate student parents and 6% of non-parent graduate students. The highest priority items requested by the food bank, diapers and baby formula, attest to



Two donation boxes filled with many items

this. The recent and continuing child care fee increases at the SFU Child Care Centre mean that student families in the community, now more than ever, need our support.

The Christmas 2007 food drive started on November 26th and ended on December 7th. We are proud to say that the Department managed to fill two donation boxes to overflowing with diapers, infant formula and non-perishable food items before the pick-up deadline. Many thanks to those who donated and to Charlene Bradbury for coordinating the department's effort.

Aruni Tennakoon

Extra-curricular Activities

Stat Curlers Slide Toward Improvement

The loss of 2/5 of last year's team left the remaining stat curlers — Tom and Marie Loughin and Derek Bingham — scrambling for new talent for the 2007/8 season. (Actually, the addition of *any* talent would bring the mean up considerably...) They found just what they were looking for in new Surrey Campus hire Dave Campbell: a living, breathing person who was willing to spend many Friday evenings with Tom, Marie, and Derek. Dave's total lack of curling experience also meant that the team had no fears of being shown up by the new guy. The team is starting to gel, having already won three matches this season (two by forfeit, the third while borrowing two players from another team). They've shown improvement in all of their skills (most notably, the after-match pub session) and are looking forward to winning a game legitimately when the season starts up in the new year.

Tom Loughin

The Rewards of Cycling

As modern life speeds up, it is nice to find activities that let us decompress, regroup and refocus. For myself, cycling has played that role for the last decade. It started simply enough with commuting year round and has expanded over the years. The last couple of years have seen me become more involved with lower mainland cycling community, both in advocacy and competition.

On the advocacy side I have been writing technical articles for a local urban cycling publication. Commuting for years has left me with a good base of technical knowledge, which I am more than happy to share. The articles tend to be written with a non-technical approach and have generally been well received.

I have recently also started competing in the European sport of cyclocross racing. A strictly fall/winter sport, these races use a modified road bike (stronger brakes, and narrow knobby tires) to navigate courses constructed out of muddy fields and dirt roads. While the event is technically off-road, this is where the similarity to mountain biking ends. Courses are less technical, and the focus is more on fitness, as riders are required to dismount and carry their bikes over multiple sets of barriers each lap.

Originating in 1900, cyclocross has been a popular way for European road cyclists to stay fit during the winter. Prior to competition, riders would informally challenge each other to races to the next town over. There were no rules, and riders would often cut across farmer's fields and run over stone walls to gain an advantage. The result is a short (1 hour), but very intense type of cycling competition that can be best described as "pure sweet hell." Both the community involvement and the combination of mud and exercise provide a nice compliment to the day-to-day rigours of research.

Wendell Challenger

Experience on Graduate Issues Committee

From January to December 2007, I was the Graduate Issues Committee (GIC) representative for the statistics graduate student caucus. GIC is a committee under the Simon Fraser Student Society (SFSS). This was a very interesting year to be on this committee as the graduate students voted to separate from the SFSS and form their own society, the Graduate Student Society (GSS). As part of my GIC work I also sat on the Childcare working group. This newly formed group will be addressing childcare issues, including accessibility and affordability, as they relate to graduate students in particular. Although my year is up with GIC, I intend to continue to work on the Childcare working group as participation is not limited to GIC or GSS representatives.

Kelly Burkett

Theses for 2007

Semester	Author	Degree	Title	Advisor
2007-1	Wolters, Mark	M.Sc.	Using Oversized-Model Sets to Find Active Variables in Screening Experiments with Complex Aliasing	D. Bingham
2007-1	Duke, Linnea	M.Sc.	A Graphical Tool for Exploring SNP-by-Environment Interaction in Case-Parent Trios	J. Graham
2007-1	Muthukumarana, Saman	M.Sc.	Bayesian Modelling and Software Development for the POST Project	T. Swartz
2007-1	Lui, Lucy	M.Sc.	Bayesian Analysis of Dyadic Data Arising in Basketball	T. Swartz
2007-1	Xing, Li	M.Sc.	Hierarchical Segmented Regression Models with Application to Wood Density Analysis	C. Dean
2007-2	*Nielsen, Jason D.	Ph.D.	Spline Models for the Analysis of Recurrent Event Panel Data Abstract	C. Dean
2007-2	*Ainsworth, Laurie	Ph.D.	Models and Methods for Spatial Data: Detecting Outliers and Handling Zero-inflated counts	C. Dean
2007-2	*Linkletter, Crystal	Ph.D.	Spatial Process Models for Social Network Analysis	R. Sitter
2007-2	*Ranjan, Pritam	Ph.D.	Factorial and Fractional Factorial Designs with Randomization Restrictions - A Projective Geometric Approach	D. Bingham

2007-2	Vrecko, Dean	M.Sc.	Efficient Designs of Multiple Sclerosis Clinical Trials	R. Altman
2007-2	Lei, Na (Linda)	M.Sc.	A Comparison of Algorithms for Sampling from a Distribution	R. Sitter
2007-2	Zhou, Rouwei	M.Sc.	Actuarial and financial valuations of guaranteed annuity options	G. Parker

* Jason Nielsen is now an Assistant Professor of Applied Statistics in the School of Mathematics & Statistics at the Carleton University.

* Laurie Ainsworth is now a post-doctoral research associate working with Rick Routledge and Jiguo Cao.

* Crystal Linkletter is now an Assistant Professor of Community Health in the Center of Statistical Sciences at the Brown University.

* Pritam Ranjan is now an Assistant Professor in the Department of Mathematics and Statistics at the Acadia University.

Major Awards and Winner's Stories

Statistics and Actuarial Science Awards 2007

The Department of Statistics and Actuarial Science is pleased to honor its students, staff, and faculty every year during our Annual Awards Reception. A full copy of all of the award winners is available on our web site at <http://www.stat.sfu.ca/people/awards/>.

Watson Wyatt Scholarship - John Kowalik

This scholarship is awarded annually to a student in an approved Actuarial Science program who has completed ACMA320. It is granted on the basis of academic performance.

John Kowalik writes:

Being awarded the Watson Wyatt Scholarship is a great achievement for me as I transition from school into the workplace. I have just completed my 5th year at Simon Fraser University and am now working at Hewitt on a co-op term. My experience at SFU has been amazing, which is part of the reason why I have been taking my sweet time to graduate. I have been enjoying a very happy lifestyle in the last 5

years, receiving many scholarships and awards for my hard studies, and treating myself to a couple 3-month vacations to Thailand. I'm really happy that I decided to pursue a career in the actuarial field and I'm very thankful for the great opportunities and rewards that have come to me. In September I will be moving to a co-op position at ICBC, which should be a great opportunity to try out the P&C side of the actuarial field. I have just written my fourth actuarial exam (SOA exam C) this May and am very motivated and determined to become a fellow in the near future. I would like to sincerely thank the people at Watson Wyatt for their generous support as I continue on my path to becoming an excellent actuary!

Thank you!!

Pacific Blue Cross Scholarship - Yi Zhang

One Pacific Blue Cross Scholarship in Actuarial Science will be made available in any semester, based on academic merit, to a 3rd or 4th year student with a declared major in Actuarial Science.

Yi Zhang writes:

Almost three years ago, I made a very important decision in my life and I left Beijing for Vancouver Canada with excitement, expecting to get a better education in a Canadian university.

I started my study at SFU in Jan. 2004. I surprisedly found that there are so many academic programs and courses at SFU for students to choose. However, at the very beginning, I was simply not sure which subject and program I should choose as my major. I liked Mathematics very much in both my junior and senior high school's studies and always got good grades. Therefore, having a rough idea that I should choose a major which is closely related to mathematics but also applicable in our daily life, I selected most of my courses in Math and Statistics.

The first time I heard about Actuarial Science was when a friend of mine showed me the web-site of "be an actuary.org" and the words "Career Without Boundaries" aroused my interest immediately. So I could not help looking into it in more details. The more I searched, the more I felt interested in it. And I finally realized that Actuarial Science was just what I was looking for. However, at first, I felt a little bit hesitated to apply to go into the Actuarial Program, because I had heard that the Actuarial Science Program at SFU is quite good, but very competitive. Particularly its ACMA courses are very challenging and difficult to learn. But still, my great interest in the subject pushed me forward. So I started to fill out all the required courses for Actuarial Science. Even though some of the courses are proved to be very difficult and tough, and sometimes even let me feel frustrated, I still strove for further progress and best result as possible.

In the spring semester 2006, I was accepted into Actuarial Major Program with an outstanding GPA. The actuarial science study has proved to be very challenging, fascinating and very fruitful to me. I really enjoy the academic discussions on material and difficult problems in my AMCM and STATS courses, which I should say benefited me a great deal.

I have been doing Teaching Assistant in the statistics workshop for Summer and Fall semester in 2006. Now, I am doing a 8-month Co-op at Mercer Human Resource Consulting, Toronto office. Along with my studies and those great experience in real industry, I am getting to have a clearer picture of how it is like to work as an actuary and I have found my interest in this profession increasing day by day.

Of course, I know Actuarial Science is by no means an easy major, it needs great diligence and devotion. And to become a qualified actuary, there is still a long way for me to go. I know I will have to face the increasing difficulty of the course materials and have to overcome a lot of difficulties in my future study and work. However, I firmly believe that as long as I continue to study and work hard, I shall finally reach my goal one day in future.

Statistical Society of Canada - Feng Gao

The Statistical Society of Canada Award will be presented to an undergraduate student who is a declared major/honors in Statistics and/or Actuarial Science. The criteria for selection for the award are academic merit and a commitment to the mission of the SSC. The SSC is a national organization representing statisticians from across Canada. Its mission is to encourage the development and use of statistics and probability.

Feng Gao writes:

Two years ago, I made the decision to pursue my second bachelor's degree in actuarial science rather than seek a master's degree in computing science, which was the major of my first degree. The past two years turned out to be the most important period in my life; I have found not only where my strength is but also a career to which I can devote myself.

Along with being exposed to a number of subjects in actuarial science and statistics, I have also taken two Society of Actuary (SOA) exams, P and FM, and completed the economics and finance courses that satisfy the SOA's Validation of Education Experience (VEE) course requirements.

I have a strong intention to work toward a PH.D. degree in actuarial science after my graduation. In terms of a long term career goal, I would prefer doing research and teaching in an academic environment. In the fall of 2006, I was granted a teaching-assistant work term at Simon Fraser University, which helped me value this career goal more. I enjoyed the discussion with people on statistical issues. More important, I found out that teaching is not only about how to explain the concepts and theories but also based on the understanding of other people's thoughts.

While school has taken much of my time, I had been working as a part-time waiter and occasionally on a second job until the end of last year. That has enabled me to improve my time-management skills and provided valuable life experience. Also, for this spring semester, I have been doing a co-op work term in the Household Survey Methods Division at Statistics Canada, where I am familiarizing myself to the practical statistics tools and application and honing my interpersonal skills.

Statistics and Actuarial Science Endowment Awards

These awards are presented to students in the major/honor program with high academic standing.

(Robbin) De Hu

Many people thought I was crazy. I gave up a stable position in a successful family business, and immigrated to a new country without knowing how the future is going to unfold. But three years later, with a confident smile on my face, I can proudly say that this was the best decision that I have ever made. By rejecting everything that had been planned for me, I finally fulfilled what had been missing from my life: my desire for challenges and competitions.

Shortly after arriving in Canada, I decided to go back to school and was admitted to SFU. Knowing my strength and my interest had always been in working with numbers and logic, I took many mathematics courses during the first two semesters. Although I have been out of school for a very long time, all my hard work paid off and I maintained an “A” average. I continued to amaze myself because the more I was challenged, the better I performed. I became addicted and it was hard to quit. When I heard about the highly competitive Actuarial Science Program, which appeared to be an excellent area to apply one’s mathematical knowledge, I immediately set another goal; I became a student in the Actuarial Science Program despite a matriculation ratio of 1 to 5.

Being probably the oldest student among the class, I again challenged my aging memory while fully exerting my capacity to learn. Even though some courses were known to be notoriously tough, I still strove to maintain an outstanding GPA in this highly selective program, and found my passion for the actuarial profession growing day after day.

Now that I am in the senior year of my undergraduate study, I will soon begin a new search. I look forward to applying my solid knowledge and excelling as an actuary. I know there is a long road ahead of me before I can become a fully qualified actuary. I also know that the challenge is only going to get more intense and the competition more fierce, but I am ready to face them without fear or hesitation.

Victoria Laan

I was born and raised here in the Fraser Valley, in Maple Ridge, and educated within the public school system. I spent the majority of my high school years believing I would become a high school teacher, preferably in mathematics and English. Everyone agreed that it was a very unique combination, but I enjoyed the challenge available in mathematics and the ideas and creativity encouraged in English literature studies. I also carried with me a love of teaching and sharing ideas, which led naturally to the role of educator. However, as I neared graduation, my mathematics teacher mentioned a good friend who was an actuary, and described briefly what it was that they did. I was instantly hooked.

I went home to do some research, and the more I read, the more I loved the possibilities of the profession. My greatest interest in mathematics came from the probability, discrete math, and applied calculus problems; anything that had an immediate real-world answer and consequence fascinated me.

The chance to pursue those types of solutions as a lifelong career, while working in a dynamic, team-oriented environment, had infinite appeal.

My journey through the actuarial program at SFU has pushed me far beyond what I thought I was capable of. I have met amazing people, many of whom are so intelligent and talented that I sometimes feel daunted just talking with them. I have made solid friends among my classmates, and spent many hours sharing ideas and celebrating personal triumphs, while constantly looking towards the next challenge (or three) on our agendas. The material itself, with the incredible attention to detail and depth of understanding required to be successful at it, never fails to captivate and demand excellence in me. I am a more disciplined and capable person because of this program.

Now that I look forward to graduation, I am excited to explore the opportunities available to me in the actuarial industry. After studying pension theory here at SFU, I am particularly interested in the areas of pension administration and life insurance. It is my hope to find employment in the North America and to continue to build on my skills through exams and practical experience. I have a long road and much study still ahead of me, but with the continued support of friends and family, and a good employer to help me grow, I know that I will succeed.

Shuo Lu

Three years ago, I moved to Canada with my family for a better education opportunity and a better future. However, at that time, I didn't have a clear idea about my career.

At first, I thought that commerce is interesting and maybe a good major to choose. Without further concerns, I started at Langara College, where I finished most of my lower division courses. Since I am interested in economics and finance, I took a lot of econ and accounting courses at that time. One day, my statistics instructor talked about actuarial science in the lecture. Although I've heard about actuarial science before, that was the first time I began to get interested in this academic field, and I thought that being an actuary might be a good choice as well. I'm interested in economics and finance, and I'm good at mathematics, so why not to choose actuarial science which is related to both of the two areas. Since then, I set my career goal as being an actuary.

Last year, I took ACMA 210 and successfully got the admission of the actuarial science major program. Right now, I'm taking ACMA 320 and ACMA 315. Those courses are challenging, fascinating, and very helpful for preparing for the SOA exams. I passed Exam FM, and I'm going to write Exam P this May.

I know actuarial science is by no means an easy program; thus, to become an actuary, there is still a long way to go. Now, I am ready to face the challenges and to overcome any difficulties in my future study.

At last, I want to thank my parents who have been supporting me all the time and taking care of me so well. Moreover, I must express my gratitude to the professors in the department who provide tremendous help and support.

**Department of Statistics & Actuarial Science Awards
Reception 4:00 p.m., May 23, 2007, K9509**

Undergraduate Awards

Undergraduate Open Scholarships: Jervyn Ang 1064,1067,1071 (Sibil) Shu Man Chan 1064,1067,1071 Leo Cheng 1067 Raymond Chiang 1067,1071 John Kowalik 1064,1067,1071 Victoria Laan 1064,1067,1071 Jessica Lee 1064,1067,1071 Rong Li 1067 Shuk Wong Li 1071 Shuo Lu 1067,1071 Suli Ma 1071 Martin Yui Pui Mak 1067,1071 Vicky Yen 1067,1071 Yi Zhang 1064,1067	Alumni Scholarship & Bursary Endowment Fund: (Kevin) Kailiang Chen 1064,1071 Raymond Chiang 1071 (Robbin) De Hu 1067,1071 (Genie) Jeonghee Lee 1067,1071 Jessica Lee 1067 Rong Li 1067 Shuo Lu 1064,1067 Gary Tse 1067
	R. Bruce Coles Memorial Scholarship: (Genie) Jeonghee Lee (Miranda) Zhaoqing Zhu
	Watson Wyatt Scholarship in Actuarial Science: John Kowalik
Statistics & Actuarial Science Endowment Award for excellent achievement in the Majors & Honors program: (Robbin) De Hu Victoria Laan Shuo Lu	Ken & Su Jang Scholarship for Women in Science: Yi Zhang
	Joe and Mary Merchant Scholarship: Yi Zhang
SSC Endowment Award: Feng Gao	Pacific Blue Cross Scholarship: Yi Zhang

Graduate Awards

NSERC Industrial Postgraduate Scholarship: Carolyn Huston 1067-1074	PhD Graduate Fellowship: Ryan Lekivetz 1074 Crystal Linkletter 1064 Lihui Zhao 1074
NSERC CGS M Scholarship: Feng Li 1067-1074	
NSERC PGS D Scholarship: Jean Ji-Hyung Shin	Presidents's PH.D. Research Stipend: Crystal Linkletter 1071 Pritam Ranjan 1071
Ellis R. Ott Scholarship in Industrial Statistics: Mark Wolters	
Faculty of Science Teaching Assistant Award: Dean Vrecko	MSc Graduate Fellowship: Yunfeng Dai 1074 Zhe Zhang 1074 Feng Li 1071 Luyao Lin 1074

Faculty Awards

32nd President of the SSC & Burnaby Mountain Endowment Professorship Dr. Charmaine Dean	NSERC University Faculty Award: Leilei Zeng
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Travel Awards

Student Name	Conference and Location
Elizabeth Juarez-Colunga	CMS-MITACS Joint Annual Conference, May 30-June 3 2007, Winnipeg
Kelly Burkett Jean Ji-Hyung Shin David Zamar	Canadian Genetic Epidemiology and Statistical Genetics Meeting, April 15-17 2007, Toronto

Donations to funds 2006-2007 calendar year

The list of people who donated to the Department's endowment fund who did not mark themselves as anonymous.

Bingham, Derek	Kwok, Joseph	Li, Julia	Tang, Boxin
Eaves, David	Lau, Timothy	Lu, Yi	Taylor, Carolyn
Harrop, Ronald	Lee, Christie	Mallory, Malcolm	Tsai, Cary Chi-Liang
Hu, Joan	Lee, May	Masuhara, Mike	