STATISTICAL SCIENCES
converging

Winter 2015

CHAIR'S REPORT

BY JAMES STAFFORD

A year has passed since returning from sabbatical leave to begin my second term as Chair.

While on leave Sheldon Lin served very effectively as Acting Chair and the Department experienced several significant events under his leadership. This included the arrival of several new, and vibrant, faculty – Vicki Zhang, Lei Sun and most recently Dan Roy (p. 7) – the successful stewardship of our professional Masters of Financial Insurance (MFI p. 2), an overall increase in our research support and the successful nomination of David Brillinger for an honourary doctorate at the University of Toronto.

THE MEDIA IS FULL OF STORIES CONCERNING BIG DATA AND POSITIONS FOR DATA SCIENTISTS ARE EMERGING IN NEARLY EVERY FIELD.

Since returning from leave the dominant story for our Department has undoubtedly been the dramatic increase in our undergraduate enrollments. In my first year as Chair [2008-9] enrollments in our major and specialist programs numbered 499 students; in the past year alone this number has increased by 515 students to 1810 making our Department one of the largest in the Faculty of Arts and Science. This trend is likely not surprising to any of us who are aware of the importance that data, and reasoning with it, has in nearly every aspect of modern society; and this trend is reflected at institutions across North America. None of us have to look far to find evidence of this. The media is full of stories concerning Big Data and positions for data scientists are emerging in nearly every field [google either term]. Truly the Department anticipated this revolution during it's last academic planning exercise in 2009-10, and thankfully so. Our undergraduate program in Applied Statistics, innovations to curriculum and a suite of new faculty hires all address this emergent demand. This is only gathering pace as the Department prepares for 5 faculty searches this year, is actively designing new programs in data science [jointly with computer science], has significantly increased its complement of teaching stream faculty, actively participated and led (Nancy Reid p. 5) a thematic program on Big Data and has welcomed the head office of the Canadian Statistical Science Institute (CANSSI p. 13) under the umbrella of the Department. Despite the intense pressure enrollments bring they are a welcome indicator of the importance of the Department's mission and offerings. The Department is well positioned to broaden our successes and fully engage in the University's ambitions as it embraces the Big Data/Data Science revolution.

Highlights in our current newsletter include the anticipated launch [September 2016] of our first professional program, the MFI, a number of awards including Nancy Reid becoming an Officer of the Order of Canada and Angela Fleury winning the Dean's Outstanding Administrative Service Award, and a report on the annual meeting of the Statistical Society of Canada which the Department hosted to great fanfare. We welcome a new, friendly and energetic faculty member Nathan Taback and we say goodbye [well as a full-time employee anyway] to Professor Augustine Vukov who retired July 1, 2015. Gus gave me my first teaching job as a STA 220 TA and after receiving several complaints from students he hauled me into his office to explain the need for diplomacy in the classroom – thanks Gus, I never forgot.

In this issue:

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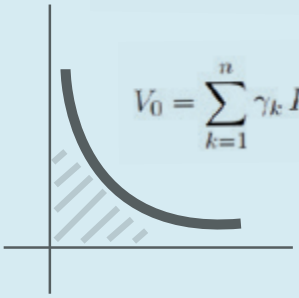
$$P_t = \mathbb{E}\left[e^{-\int_t^{T_2} r_s ds}(\bar{L} - L_{T_2})_+ \middle| \mathscr{F}_t \vee \sigma\left((r_s)_{0\le s\le t}\right)\right]$$

$$\nu(dx, dt) = m_+ \frac{e^{-x}}{x} \mathbb{1}_{\{x>0\}} + m_- \frac{e^{-|x|}}{|x|} \mathbb{1}_{\{x<0\}}$$

$$V_0 = \sum_{k=1}^{n} \gamma_k P_0(T_k) + \mathbb{E}^{\mathbb{Q}}\left[e^{-\int_0^T r_s ds}(F_T)_+ | \mathscr{F}_0\right]$$



Masters of Financial Insurance

The Department of Statistical Sciences is excited to announce the launch of its new professional Masters of Financial Insurance (MFI) program. The first cohort of students will begin the program in September, 2016 and applications will open shortly.

Traditionally, the finance and insurance worlds are quite distinct, but this distinction is disappearing. Financial firms are taking exposure to insurance risks, insurance companies are providing guarantees to their clients that fundamentally intertwines them with the financial markets, and pension plans provide income guarantees which profoundly link their obligations to the these markets. There are a number of exciting, challenging and important problems at the interface of finance and insurance that require a new breed of professionals. The MFI is a professional program that provides students with a sophisticated understanding of this complex interaction of the financial and insurance fields. The program contains a comprehensive set of offerings and students gain rigorous training in statistical science, actuarial science and finance. Graduates from this program will be well armed to face the highly skilled work required of them in the banking, insurance, pension and consulting industries. It is a three semester program with the first and second semesters containing course work including substantial group projects. During the third semester, students take on an industrial internship. Courses will be taught by both industry professionals as well as University of Toronto faculty members.

There are a number of exciting, challenging and important problems at the interface of finance and insurance that require a new breed of professionals.

Undergraduate Program in Statistics Report

Following the North American trend of statistics being the fastest growing science, technology, engineering, and math undergraduate degree, student demand at the University of Toronto for statistics programs of study is growing rapidly. Current total enrolment is almost 1,400 students across 2nd, 3rd, and 4th year. Over 200 students graduated from statistics programs of study this spring. Our congratulations and best wishes to our newest group of alumni!

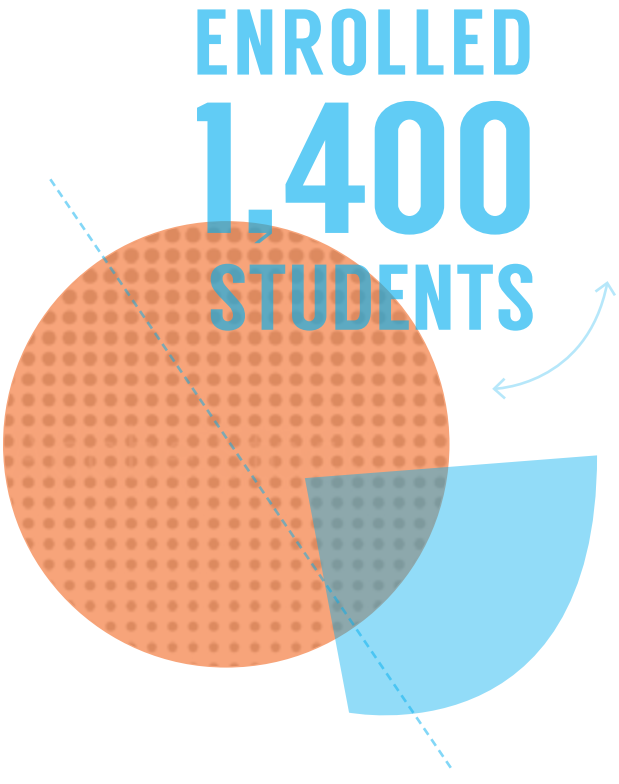
The Statistical Sciences Association of Students had another productive year. Our congratulations to Sergio Betancourt, the club president, who was a recipient of the Gordon Cressy Student Leadership award.

Statistics alumni shared their advice with our current undergraduate students through two Backpack 2 Briefcase career panels and a mentorship dinner at the faculty club.

Curriculum innovation continues in statistics courses and programs, as we work to better meet the needs of our diverse group of undergraduate students and the demands of a world that is hungry for data scientists. Some of these innovations include: online instruction in introductory statistics, including a project funded by the Ontario Ministry of Training, Colleges, and Universities to create online modules that can be used and adapted for use across the province; greater integration of R in the undergraduate curriculum, starting in 1st year; and new courses introducing students to statistical reasoning and data science in 1st year and to cutting-edge research in statistical genetics at the 4th year level.

This year, the undergraduate office was extremely pleased to welcome Gillis Aning, Undergraduate Administrator, to the department. Gillis is quickly becoming an invaluable resource for our students. We are grateful to Andrea Carter for her many years of service to undergraduate students, and the accumulated wisdom that she continues to share with us. We are also happy to announce that Dr. Nathan Taback has joined our teaching group as teaching-stream faculty in statistics. Welcome Gillis and Nathan!

CRESSY STUDENT LEADERSHIP AWARDS LUNCHEON 2015 (LEFT TO RIGHT): LUKE SPOONER, SERGIO BETANCOURT, PROFESSOR JAMIE STAFFORD, DEAN DAVID CAMERON AND WENDY YE



(LEFT TO RIGHT): UNKNOWN, PROFESSOR JAMIE STAFFORD, PROFESSOR MERIC GERTLER (UNIVERSITY OF TORONTO PRESIDENT), BRUCE MACLEAN (104 YEAR OLD UTS MATHS TEACHER), JIM FLECK (CHAIR OF THE BOARD FOR UTS), PROFESSOR DAVID BRILLINGER (RECEIVED AN HONOURARY DOCTORATE AND UTS GRADUATE – BRUCE MACLEAN'S FORMER STUDENT), PROFESSOR YVES ROBERGE (PRINCIPAL, NEW COLLEGE) PROFESSOR EMERITUS DAVID ANDREWS, AND PROFESSOR SHELDON LIN

Congratulations to –

David Brillinger

——— for receiving an honourary doctorate from the University of Toronto pictured with Bruce MacLean, his 103-year-old high school teacher, and others. Both are alumni and David is a world-renowned statistical scientist who has distinguished himself as an innovator and leader in the fields of random process theory and data analysis, risk analysis, spatial-temporal trajectory modeling, and sports statistics.

Angela Fleury

——— for winning the Dean's Outstanding Administrative Service Award which is given to an administrative staff member who has earned the respect of his or her administrative colleagues and whose outstanding contributions to administrative service have made a positive impact on teaching, research or general administration.

Sebastian Jaimungal

——— was elected as the Vice Chair of SIAM's Financial Mathematics & Engineering Activity Group. Published a new book on Algorithmic and High-Frequency Trading.

Radu Craiu

——— for becoming an elected Fellow of the International Statistical Institute (ISI). Elected members must be established as leaders in their field. The ISI is a truly international association, bringing together and connecting all those whose work and interests involve statistics from all types of workplaces and from all over the world.

Fang Yao

——— for his successful promotion to Full Professor and for the being awarded the CRM/SSC Prize in Statistical Science. This award is in recognition of a statistical scientist's professional accomplishments in research during the first fifteen years after having received a doctorate. Only one award is given each year.

Ruslan Salakhutdinov

——— for being awarded a Sloan Research Fellowship. The Sloan Research Fellowships seek to stimulate fundamental research by early-career scientists and scholars of outstanding promise.

Zhou Zhou

——— for his successful promotion, with tenure(!), to Associate Professor. Tenure reviews are extremely rigorous at the University of Toronto which speak to the magnitude of this accomplishment. External referees described Zhou as having "truly phenomenal research productivity", "impressive intellectual ability and energy in pushing frontiers" and as a "rising star in time series internationally".

Nancy Reid has also succeeded Professor Mary Thompson as Director of CANSSI in June, 2015

Nancy Reid

——— for being elected an Officer of the Order of Canada. Professor Reid is a long-standing member of the Canadian community of statistical scientist whose devotion to that community is nearly unparalleled. Her citation reads: *For her leadership in the field of statistical inference, which has helped to facilitate sound public policy decision making.*

PROFESSOR NANCY REID WAS AWARDED AN HONORARY D. MATHS IN THE SPRING OF 2015 AND THE UNIVERSITY OF WATERLOO, PICTURED HERE WITH GRACE YUN YI, AN ALUMNUS OF U OF T STATISTICS (PHD), NOW A PROFESSOR AT U WATERLOO.

NEW FACULTY

Nathan Taback

——— Welcome to Nathan Taback who is now an Assistant Professor, Teaching Stream within the Department. Nathan received his PhD in statistics from the University of Toronto in 1998 and after graduating Nathan spent four years as a research scientist and lecturer in the Departments of Biostatistics and Statistics at Harvard University. His primary focus is on applied statistics, statistical education, and statistical consulting. In his position in Statistical Sciences he is able to bring all of his practical experience using and communicating statistical methods back into the classroom.

Lei Sun

——— Lei Sun studied mathematics at Fudan University and obtained her PhD in statistics from University of Chicago in 2001. Since then, Lei Sun has been a faculty member at the Division of Biostatistics at the Dalla Lana School of Public Health at the University of Toronto, and recently she joined the Department. Lei's research area is in Statistical Genetics. The overall aim of her research program is to develop statistical methods and computational tools to solve problems arising from genetic studies of complex human traits.

See page 7 for more new faculty ⟶

NEW STAFF

Gillia Aning

——— We are pleased to welcome Gillis Aning to the Statistical Sciences team! She joined us in January, 2015 as the new Undergraduate Administrator and comes to us from West Neighbourhood House where she worked with the Newcomer Youth Program as a Team Leader. Gillis is also an alumnus of the University of Toronto (BA 2010). Gillis has been quickly getting up to speed on the multiple aspects of undergraduate program administration and has also recently started working with Professors Stafford and Rosenthal on a mentorship program.

Congratulations to –

1. TEACHING ASSISTANT AWARD

This award is given to an outstanding Teaching Assistant.

2014-15	Bo Chen
2014-15	Victor Veitch
2013-14	Becky Lin
2013-14	Dameng Tang

2. DOCTORAL AWARD

This award is given to a graduate student for excellence in research.

2014-15	Mark Koudstaal
2013-14	Jason Ricci

3. ANDREWS ACADEMIC ACHIEVEMENT AWARD

This award is given for outstanding work in the Master's program.

2014-15	Ali Al-Aradi
2014-15	Alex Stringer
2013-14	Yi Lu
2013-14	Namdar Homayounfar

Dan Roy

Daniel Roy joined the Department of Statistical Sciences in 2014, having previously held a Newton International Fellowship funded by the Royal Society and the Royal Academy of Engineering and a Research Fellowship at Emmanuel College, University of Cambridge. Dr Roy received his S.B. and M.Eng. in Electrical Engineering and Computer Science and then his Ph.D. in Computer Science from the Massachusetts Institute of Technology.

Dr Roy's research is focused on fundamental issues in computation, statistical inference, and probabilistic modeling, with special attention to the interplay of all three areas.

Dr Roy is known, in part, for his work establishing a new area of machine learning, called probabilistic programming. Probabilistic programming languages such as the CHURCH language, developed by Dr Roy and colleagues at MIT, are ordinary programming languages with the addition of "sample" and "observe" statements.

Sample statements allow a programmer to generate values from probability distributions. The resulting probabilistic program can represent a potentially very complicated probabilistic models. Observe statements allow a programmer to introduce data and perform statistical inference by probabilistic conditioning. Under the hood, universal inference engines automatically transform probabilistic programs representing models into inference algorithms that can use data to make statistically sound predictions and decisions.

Taken together, research in probabilistic programming languages and universal inference engines aims to open up machine learning and statistics to a much larger community.

Since the introduction of CHURCH, Dr Roy's work has focused on the theoretical foundations of probabilistic programming. In joint work with colleagues in mathematics at Harvard and MIT, Dr Roy characterized the computability of exchangeability and probabilistic conditioning, two cornerstones of Bayesian statistics. His doctoral dissertation on probabilistic programming was awarded an MIT EECS Sprowls Dissertation Award, given to the top Computer Science dissertations each year at MIT.

Beyond probabilistic programming, Dr Roy has made contributions to a number of other areas, including Bayesian nonparametric statistics, statistical network analysis, and probabilistic machine learning, spanning over two dozen articles. Since joining the department, Dr Roy has been the recipient of a Connaught New Research Award and two best poster awards for joint work with University of Toronto graduate students Haosui Duanmu and Victor Veitch.

Finally, on a personal note, Dr Roy's wife, Gintare Karolina, gave birth in May to their first son, Kaius Emilijus. Incidentally, Kaius's parents finished revisions to their first scientific paper together the day after while Kaius slept.

Augustin Vukov

The Department of Statistical Sciences said goodbye to one of its longest serving and best-loved faculty members as of July 1, 2015. Associate Professor Gus Vukov retired on that date.

BY SAM BROVERMAN

Gus grew up in Far Rockaway, NYC, and came to Canada in 1969 after obtaining a BA in Mathematics at Queens College, CUNY. Gus came to Canada as a Conscientious Objector to the Vietnam war. Through his association with the Toronto Anti-Draft Program, Gus met Professor Marty Wall of the Psychology Department of Universty of Toronto who gave Gus a job offer to do some computer programming in order to facilitate immigration.

Gus received an MSc degree in Mathematics and Probability in 1971 and started his long association with the Math and then Stat Departments at U of T at that time. He pursued PhD studies for a few years through the mid-1970s and began to get lots of work as a teaching assistant for math and statistics courses.

The Department of Statistics was created in 1978 and Gus became a Lecturer for the department around that time. His appointment with the University was changed to Senior Lecturer (now termed Associate Professor, teaching stream) some time after that. He became the custodian of STA222Y (precursor to the current two half-courses STA200H and STA221H), the service course for pre-med students, nursing students, in fact all students at U of T whose program requires a basic non-calculus statistics course. Since then, every year Gus has lectured in several sections of the course (as well as other courses in the department). If you have visited a Doctor or Dentist who graduated from the U of Toronto Faculties of Medicine or

Gus is the co-author and lead Canadian author of the very popular book Stats: Data & Models, Canadian Edition, *1st & 2nd editions, published by Pearson Canada.*

Dentistry in the past 35 years, chances are good that this Doctor can recall sitting in one of Gus's huge lecture classes.

For many years, up until a few years ago, Gus organized and supervised the teaching assistants for all of the undergrad courses in the department. He was Associate Chair for undergraduate studies in statistics from 1992 to 2000.

Gus is the co-author and lead Canadian author of the very popular book *Stats: Data & Models, Canadian Edition*, 1st & 2nd editions, published by Pearson Canada. He is about to start work on the 3rd edition of the book. This book was chosen "Pearson Canada Project of the Year for 2011". The book is used in intro stat courses in various universities and colleges across Canada, and is currently top seller in its category in Canada.

Gus was an enthusiastic member of the department softball team. He was the team's obvious leader, which he consistently demonstrated with power hitting and superb fielding, tracking down many a fly ball out in centre field. The team had difficulty finding a good team statistician, but Gus assures me that he has a career batting average of over .500 (take that, Ted Williams), and hit over 300 home runs. I was on the team for much of his career and I will vouch for that.

Over the years Gus has traveled abroad quite a bit. His two favourite destinations are Brazil and China, and he plans to continue to travel. He is also an avid music fan with Brazilian & Latin music, as well as old-school R&B at the top of his list. In addition, he is big fan of Leonard Cohen and Buffy Sainte-Marie.

Gus was with the department when I arrived in 1976, and ever since I met him then he has been a good friend and colleague to me. His good nature and great sense of humour has endeared him to everyone in the department. His regular presence in the department will be missed greatly, though he will be continuing to work for the department as an occasional course instructor (having accepted Emeritus status). The department is lucky and grateful to have him continue in that role. He also particularly enjoys one-on-one tutoring of students in math and statistics and hopes to have much more time for this activity in the future. We all wish Gus the very best of continuing good health and good fortune in his retirement.

Sergio E. Betancourt, HBSC 2015

Sergio came to the University of Toronto in 2010 as an international student from Colombia.

In 2015 he graduated with Distinction from the University with an Honours Bachelor of Science degree. His undergraduate credentials consist of a specialization in statistical sciences, a major in economics, and a minor in mathematics.

Coming to the University as an international student, Sergio felt something missing in his academic experience during his first year. As a result, he made extracurricular campus involvement a priority in his education after meeting inspirational student leaders. He first became College Representative and VP External (2011-2012) of the University's Organization of Latin American Students (OLAS). Then, noticing a poor sense of belonging in the economics undergraduate community, he became Director of Finance (2012-2013) and then Co-President (2013-2014) of the University's Economics Students' Association (ESA). At the end of his term as Co-President, ESA's executive team won the 2013 Outstanding Academic Student Union Award for its lauded case competitions, academic seminars, and social events.

During Sergio's third year at the University, various talks, news articles, and papers regarding the value and popularity of the statistical sciences inspired him to become an active member of the statistics community. Not only did he switch programs from economics to statistics, but he also became the President of the Statistical Sciences Association of Students (2014-2015). His efforts in the Association translated to a successful professional mentorship program, various academic seminars, renewed relations with the department and other campus institutions, and successful social events. Moreover, he was awarded the 2015 Gordon Cressy Leadership Award and the 2015 Executive Leader of the Year Award.

> (THIS AWARD IS) PRESENTED TO SERGIO BETANCOURT TO CELEBRATE THE OUTSTANDING CONTRIBUTIONS HE MADE AS PRESIDENT OF THE STATISTICAL SCIENCES ASSOCIATION OF STUDENTS, AS WELL AS HIS OUTSTANDING LEADERSHIP, ROLE MODELLING, ABILITY TO EMPOWER OTHERS, AND DEDICATION.

The ULife awards committee had this to say about Sergio during their campus leadership awards ceremony: "(This award is) presented to Sergio Betancourt to celebrate the outstanding contributions he made as President of the Statistical Sciences Association of Students, as well as his outstanding leadership, role modelling, ability to empower others, and dedication."

Sergio's leadership experience is paired with case competitions and professional experience. In 2012, he, Christopher Balette, and Jiarui Zhao won UTM's Tri-campus Economics Case Competition. They presented a written report on the effects of Greece's sovereign debt crisis on the Canadian economy. Then, in 2014, while completing his Professional Experience Year (PEY) at Ericsson Canada as a Proposal Coordinator, he represented the University's undergraduate, statistical sciences community at the 2013-2014 RBC Next Great Innovator Business Challenge. Sergio and his team of four put together a consulting case solution for the bank to tackle Big Data challenges, targeting specific lines of business and key demographics. They placed third among five MBA-exclusive finalist teams. Sergio then went on to achieve the highest distinction in his PEY performance appraisal.

Currently, Sergio is an ICG Technology Associate at Citigroup. He supports the firm's Global Prime Finance/Brokerage group, ensuring seamless activity (e.g., trading, reporting) among Citi's systems and users in the Prime Finance ecosystem. Namely, he monitors the production environment. He ensures correct logic and data flows to drive stability and business value. Sergio remains an active member of the University's statistical sciences community and looks forward to pursuing higher studies in the statistical sciences in the coming years.

FOR MORE INFORMATION ON SERGIO RECIEVING THE 2015 GORDON CRESSY LEADERSHIP AWARD PLEASE VISIT — AWARDS.ALUMNI.UTORONTO.CA/VIEWER/VIEW/6952

FOR MORE INFORMATION ON THE RBC NEXT GREAT INNOVATOR BUSINESS CHALLENGE VISIT — ARTSCI.UTORONTO.CA/MAIN/NEWSITEMS/A-S-UNDERGRAD-TEAM-SHINES-IN-NATIONAL-BUSINESS-COMPETITION

FOR MORE INFORMATION ON SERIGIO'S TEAM AND THEIR EXPERIENCE PLEASE VISIT — IMPACTCENTRE.UTORONTO.CA/UNIVERSITY-OF-TORONTO-UNDERGRADUATE-TEAM-PLACES-THIRD-IN-RBC-CHALLENGE

Statistical Society Of Canada Annual Meeting

In June 2014 the Department hosted the annual meeting of the Statistical Society of Canada with great fanfare and pride.

The meeting attracted 718 delegates, the largest in the meeting's history. In organizing the event priority was given to the welcoming, and excellent, treatment of delegates. Making the most of the unique environment the campus brings, and the proximity of the city's cultural dimensions, was a central theme in organizing the proceedings. Sessions were primarily held in Hart House and University College. These historic buildings; the calm of the courtyards, the opulence of the Great Hall, and the stateliness of many of the session rooms were appreciated by many. Sunday's welcoming reception was held within cerebral surroundings of the Royal Ontario Museum and the Liberty Grand comfortably accommodated the large number of delegates and treated to culinary delights. Entertainment for both events was provided by our very own talented faculty: Sam Broverman, Mike Evans and Jeff Rosenthal [pictured]. And of course the scientific program, with our very own Fang Yao winning the CRM/SSC and Jeff Rosenthal giving the Gold Medal address, was of the highest standard.

02

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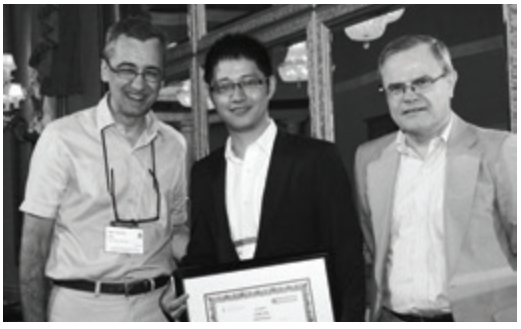

03

04

718

The meeting attracted 718 delegates, the largest in the meeting's history.

01 SAM BROVERMAN

02 JEFFREY ROSENTHAL AND MICHALE EVANS

03 PROFESSORS JOSE GARRIDO, FANG YAO AND MIKE EVANS

04 ATTENDEES AT THE SSC 2014

BACKPACK TO BRIEFCASE

The Backpack to Briefcase (b2B) program provides opportunities for students to understand their education in a broader context – opening discussions with alumni, faculty members, staff and peers about life after graduation. Alumni are invited to meet with students and offer encouragement and career advice as they embark on a new stage of their lives. b2B was recognized with a 2014 Prix d'Excellence Gold Award for Best Alumni Initiative by the Canadian Council for the Advancement of Education (CCAE) (description from alumni.artsci.utoronto.ca/b2b/).

The Department of Statistical Sciences hosted two b2B events during the 2014/2015 academic years.

(FROM LEFT TO RIGHT) TONY HAROLD, MIKE SERAFIN, ADAM NG, NATHAN TABACK

TONY HAROLD (NATIONAL MANAGER, SALES, FLEET OPERATIONS & STRATEGIC PLANNING – MAZDA CANADA INC.) - HBSC 1985 TALKING WITH STUDENTS

b2B Career Panel

The Department of Statistical Sciences hosted a Stats/Math b2B career panel discussion on February 10, 2015. The panel speakers were: Tony Harold, National Manager, Mazda Canada Inc., Mike Serafin, Library Computer Analyst and Web Developer, University of Toronto Mississauga, Adam Ng, Senior Analyst, Quantitative Engineering, TD Securities, Nathan Taback, Department of Statistical Sciences, University of Toronto.

Q&A. I

This is what students had to say about the February 10 career panel event.

Q1. What did you find to be the most meaningful or helpful part of the b2B event you attended?

A1. "I got to hear what other students had to ask to our alumni and what concerns them. Sometimes I don't realize that we are in similar situations and they may be able to handle it better."

A2. "Listening to how the alumni coped with university and how they managed to complete university. This was meaningful for me since I've had trouble getting good grades and keeping up."

A3. "Hearing about advice or stories from alumni. Before I attend this event, I had a general idea about what my program is but not about what job I can get with my degree in statistic. It was pretty helpful to know to have some ideas what Ishould do or prepare for future."

A4. "I find it really meaningful that alumni shared their life stories and professional experiences during the panel discussion. I was inspired and encouraged by their stories and realized it was important that you found something you love to learn."

A5. "Their experience with job search and the advice given about connections and interview."

Q2. Having had this experience, what do you see as your personal next step in terms of considering your eventual transition out of university?

A1. "Keep building professional network."

A2. "I am going to research more on different types of jobs or different career paths well as going to try to apply for some summer job to have some experiences."

A3. "I'm going to apply for taking part in a research program as a volunteer to gain some experience."

A4. "I am currently dead set on graduate studies with the ultimate goal being an academic career, so I'm not really thinking about that at the moment."

A5. "After this event, I realized programming is a really useful and important skill. I would like to spend more time and get familiar with it. In terms of my career path, I understood there were so many ways I could pursue after my graduation. I could try to find a job after undergraduate, or go to earn a master degree if it is necessary."

A6. "No matter where I start from, I will have the chance to grow in experience. Everyone starts from somewhere, my first job might not be my last, but it will open me up to more opportunities. All I need to do is work real hard."

b2B Statistical Sciences Dinner

A Statistical Sciences b2B dinner was held at the Faculty Club on March 12, 2015. Nathan Taback and Alison Gibbs were the faculty representatives for Statistical Sciences. The alumni guests were:

Don De la Paz | Head of Insurance information Services
– *RBC Insurance*
Andrei Izmailov | Director of Strategy and Planning
– *TransUnion Canada*
Howard Lyons | Partner
– *Aon Hewitt*
Thiru Ratnapalan | Business Analyst
– *Objectifi Inc.*

SHIJIE XIU AND PROFESSOR NATHAN TABACK

Q&A. 2

This is what students had to say about the March 12 statistical sciences dinner.

Q1. What did you find to be the most meaningful or helpful part of the b2B event you attended?

A1. "I found that success stories are in actual fact stories of hard work and persistence."

A2. "The event was awesome. It provides me with the precious opportunity to connect with our prominent alumni and hear their life story. There were a lot of takeaways in the event and I personally learned a lot of things."

A3. "Listening to those professionals' experience, I got so many ideas on how to spend my summer and how to make my dream come true. The alumni had experience doing SAS analysis or business analysis, which is my dream career. Thus, their experience is very meaningful to me."

HOWARD LYONS, FCIA, FSA (PARTNER – AON HEWITT) - BSC 1985 AND SESSIONAL INSTRUCTOR IN ACTUARIAL SCIENCE TALKING WITH STUDENTS

Q2. Having had this experience, what do you see as your personal next step in terms of considering your eventual transition out of university?

A1. "Focus on my current work and then gain the experience for the future naturally."

A2. "I am currently looking for a PEY so the advice they gave were really helpful. The first thing I need to do is get active on Linkedin and be curious about what the companies do."

A3. "I will be considering many more opportunities outside of the traditional applications of statistics. I will also be focusing more on building soft skills and business sense.

A4. "Building personal network is very important. I will reach out and try to meet and talk with more people, expand my network and pave my way for the future career development."

A5. "I realized SAS and R are very important for pursuing a job in data analysis. My next step is practicing R and get SAS certification in the summer."

Wellspring Program Evaluation of Cancer Exercise

This year the graduate course in statistical consulting offered free statistical consulting to over twenty different clients from the UofT community.

Wellspring is a network of community-based cancer support centres with four locations serving members of the GTA. Wellspring charges no fees and receives no government or other core funding. Programs and operations are made possible through the generosity of donors. They offer a large range of psychosocial programming to help patients and their caregivers manage the many personal challenges that cancer can impose.

One of their most prolific programs Wellspring offers is Cancer Exercise. Wellspring was wrapping up data collection for a comprehensive evaluation of this program and was seeking a statistician to donate their services to evaluate the cancer exercise program. Holly Bradley, the Director of Program Development for Wellspring, contacted Nathan Taback for help. Nathan thought the project would be a great fit for the graduate course in statistical consulting which he was teaching. Three students in the course, Alex Stringer, Qiqi Wang, and Diane Chan worked with Nathan, and Dr. Daniel Santa Mina (Guelph-Humber and University Health Network) to help define the questions that a statistical analysis of the data could possibly answer. A report for Wellspring is forthcoming.