

From the President



July 1 is the official new year for the Society, so this is my first message as President of the Society. I've had a great year as President-Elect, working with a very effective Executive and Board. It's become clear to me that the SSC is a very well-run organization due to our history of exceptional contributions from a long list of volunteers. It's great to be taking over from Hugh Chipman, who's left the Society in great shape as President, and will now serve a term as Past-President. Hugh, Jack Gambino (who's just completed his term as Past-President), and the rest of the Board have set a great precedent and helped me get my bearings. I look forward to working with Hugh and the rest of the team to keep the SSC moving forward.

The Annual Meeting in Montreal was a great success; it was great to host the meeting at McGill. Thanks to Russ Steele and Andrea Benedetti for local organization and a fantastic social program, and to Matias Salibian-Barrera and the program committee for a stimulating meeting. It's great too, to have had the JSM in Vancouver this year, with Christian Leger as Program Chair. Finally, I look forward to next year's SSC Annual Meeting in Calgary, with Alex De Leon and Karen Kopciuk as local organizing committee chairs and Lisa Lix as Program Chair.

There are a few transitions at the SSC. In the coming weeks you'll be hearing more from Aksana Korziuk, who is taking over as Executive Assistant. Thanks to Larysa Valachko for her service to the Society. Miaclaire Woodland will stay on for a few months to assist with the transition and to help Aksana get up to speed. I would like to say congratulations and welcome to the new board members and other elected representatives, and thank you to those who have volunteered for committee memberships. I am still filling out the various committee vacancies, so you will probably hear from me again!

I look forward to an exciting year for the SSC. I have ideas for some new initiatives, and hope to continue the high standard of organization that the SSC is used to!

Robert Platt, SSC President

SSC Awards: Call for nominations



Nominations for the SSC awards - Gold Medal, Honorary Member, Impact in Applied and Collaborative Work, Distinguished Service and Pierre Robillard Award – must be received on or before **January 31, 2019**. The deadline for nominations for the Fisher Lectureship and the Florence N. David Award is **December 15, 2018** and the deadline for nominations for the COPSS Presidents' Award and the Snedecor Award is **January 15, 2019**.

SSC GOLD MEDAL

The **Gold Medal** of the SSC is awarded to a person who has made outstanding contributions to statistics, or to probability, either to mathematical developments or in applied work. The Gold Medal is intended to honour current leaders in their fields and is normally expected to be awarded to someone still active in research. The recipient should be Canadian or a permanent resident of Canada, and must have made high quality research contributions to the statistical sciences in Canada. A recipient of the Gold Medal must be a member of the SSC. A nomination consists of a recent curriculum vitae, at least four letters of support, and a suggested citation to accompany the award. A nomination is effective for three successive competitions and may be updated annually. View all previous winners [here](#).

SSC HONORARY MEMBERSHIP

Honorary Membership in the SSC is intended to honour a probabilist or a statistician or, in special circumstances another individual, who has made exceptional contributions to the development of the discipline. Nominations are open to people whose work was done primarily in Canada or who had a major impact in this country. Membership in the SSC is not a prerequisite. A nomination consists of a recent curriculum vitae, at least one letter of support, and a suggested citation to accompany the award. View all previous winners [here](#).

SSC DISTINGUISHED SERVICE AWARD

The **Distinguished Service Award** is intended to honour a person who has contributed substantially and over a period of several years to the operation or welfare of the SSC. A nomination consists of a recent curriculum vitae, at least three letters of support (of which the nominator's letter may be one), and a suggested citation to accompany the award. View all previous winners [here](#).

Nominations for the three SSC awards - the Gold Medal, Honorary Member, and the Distinguished Service Award – must be received on or before **January 31, 2019** by the Chair of the SSC Awards Committee, Jack Gambino.

Chair of the SSC Awards Committee

Jack Gambino

jack.gambino@gmail.com

AWARD FOR IMPACT IN APPLIED AND COLLABORATIVE WORK

The **SSC Award for Impact in Applied and Collaborative Work** is given to a Canadian or to someone residing in Canada, who is a member of the Society and who has made outstanding contributions in applied and collaborative work, the importance of which derives primarily from its relatively recent impact on a subject area outside of the statistical sciences, on an area of application or on an organization.

The essential idea is that the award is for the impact of the work (not for its degree of technical sophistication, for example). The work should demonstrate the importance of the statistical sciences to other areas of endeavour and should include an intellectual contribution to statistical science motivated by the area of application. Areas in which a substantial contribution would qualify include: formulation of new statistical questions and ideas uniquely appropriate to the subject matter discipline or the organization; development and application of conceptually new approaches appropriate to the subject matter or the organization; new implementation of the best combination of techniques to solve important and difficult research problems in the applied discipline; development of statistical methods that answer a question in another field that could not have been answered adequately before; application of creative statistical thinking with demonstration of clear understanding of the science/ industry of the area of endeavour; establishment of the relative merits of alternative analytic approaches leading to guidelines useful to applied scientists in choosing among them. This list is intended to be examples of contributions and is not necessarily exhaustive.

The nomination package should consist of a letter of nomination and at least three letters of support, a curriculum vitae, a “layperson” description of the work and its impact expressed in terms that would be suitable for publicity purposes, and a citation suitable for public announcement of the award. The nomination package should also include at least two letters from non-statisticians representing the field or organization that has felt the impact of the work. The letters must address how the contributions have had a recent impact. Letters of recommendation from those not directly involved in the research are particularly encouraged. The onus is on the nominator(s) to explain the work and to provide evidence of its impact in support of the nomination.

View All Previous Award Winners [here](#)

Nominations must be received on or before **January 31, 2019** by the Chair of the Committee, Carl Schwartz. Electronic submission with PDF files is preferred.

Carl Schwartz, Chair of the Impact Award Committee
Statistics and Actuarial Science
Simon Fraser University
cschwarz@stat.sfu.ca

COPSS AWARDS

The **Committee of Presidents of Statistical Societies (COPSS)** sponsors a number of awards which are presented at the Joint Statistical Meetings. These awards are: the **Presidents’ Award** (“to a young member of the statistical community in recognition of outstanding contributions to the profession of statistics”), the **R. A. Fisher Lectureship** (“to honour the contributions of Sir Ronald Aylmer Fisher and the work of a present-day statistician”), the **Elizabeth L. Scott Award** (“to recognize an individual who exemplifies the contributions of Elizabeth L. Scott’s lifelong efforts to further the careers of women in academia”), the **Florence N. David Award** (“to recognize a female statistician who exemplifies the contributions of Florence Nightingale David”), and the **George W. Snedecor Award** (“to honour an individual who was instrumental in the development of statistical theory in biometry”). Note that the David and Snedecor Awards are given only in odd-numbered years, whereas the Scott Award is given only in even-numbered years. Also note that, for the COPSS Presidents’ Award, “eligible candidates either i) will be under 41 throughout the award calendar year, **or** ii) will be under age 46 throughout the award calendar year **and** will have received a terminal statistically-related degree no more than 12 years prior to that year.” For the first time, in 2019, the winner of the David award will also give a lecture at the JSM.

Members of the SSC are encouraged to nominate worthy candidates for these COPSS awards. The deadline for nominations for the Fisher Lectureship and the Florence N. David Award is **December 15, 2018** and the deadline for nominations for the COPSS Presidents' Award and the Snedecor Award is **January 15, 2019**.

For information concerning the nomination process and a list of previous winners, see [here](#). For further information or assistance, contact **Jack Gambino**, jack.gambino@gmail.com

PIERRE ROBILLARD AWARD

The aim of the Pierre Robillard Award is to recognize the best PhD thesis defended at a Canadian university in a given year and written in the fields covered by *The Canadian Journal of Statistics*. The award consists of a certificate, a monetary prize, and a one-year membership in the SSC. The winner will be invited to give a talk based on the thesis at the 2019 Annual Meeting of the Society; assistance with expenses to attend the meeting may be provided. The winner will also be invited to submit a paper to *The Canadian Journal of Statistics*.

Submitted theses will be evaluated by a committee whose members are appointed by the President of the SSC; their decision will be final. Judging will take into account the originality of the ideas and techniques, the possible applications and their treatment, and the potential impact on the statistical sciences. In any given year, no more than one winner will be selected; however, the committee may arrive at the conclusion that none of the submitted theses merits the award.

If accepted, the paper will be identified as being based on the thesis which won the 2018 Pierre Robillard Award; the names of the university and the thesis supervisor will be clearly indicated. The thesis supervisor could be co-author of the paper. The Pierre Robillard Award Committee Chair must receive the thesis and a nominating letter from the thesis supervisor by **January 31, 2019**.

It is imperative that the supervisors address the three criteria below in their letters:

1. The originality of the ideas and techniques, as well as a description of the exact contribution of the student when the thesis is based on co-authored articles
2. Possible applications and their treatment
3. Potential impact on the statistical sciences.

In so doing, the supervisor may include excerpts of letters from external examiners. Complete letters from external examiners or referees will not be accepted. Official confirmation that the thesis has been defended in 2018 must also be provided. Electronic submission is strongly encouraged.

Submission Instructions

For electronic submission, the thesis should be in .pdf format. The thesis and covering letter can be emailed to the committee chair. The subject header of the electronic message should be “SSC Robillard Award Submission - StudentName” and the corresponding files should be named StudentName-thesis.pdf and StudentName-cover-letter.pdf, where “StudentName” is replaced with the name of the student being nominated. Alternately, the covering letter can give a website from which an electronic copy of the thesis can be downloaded. If the thesis has to be submitted in another electronic format or on paper, the Pierre Robillard Award Committee Chair must be contacted before submission. Entries should include e-mail addresses and phone numbers of both the supervisor and the student.

For a list of previous winners, see: [here](#)

Send thesis submissions for the Pierre Robillard Award to:

Gordon Hilton Fick

Chair, Pierre Robillard Award Committee

Department of Community Health Sciences

Cumming School of Medicine, University of Calgary

ghfick@ucalgary.ca

CRM-SSC Prize: Call for nominations

The Centre de recherches mathématiques (CRM) and the Statistical Society of Canada (SSC) solicit nominations for the **CRM-SSC Prize**, which is awarded in recognition of a statistical scientist's professional accomplishments in research during the first fifteen years after earning a doctorate.

The award, which includes a \$ 3,000 cash prize, is bestowed at most once a year upon a Canadian citizen or permanent resident of Canada whose research was carried out primarily in Canada. Recipients of the award, since its creation in 1999, have been **Christian Genest, Robert J. Tibshirani, Colleen D. Cutler, Larry A. Wasserman, Charmaine B. Dean, Randy R. Sitter, Jiahua Chen, Jeffrey S. Rosenthal, Richard J. Cook, Paul Gustafson, Hugh A. Chipman, Grace Y. Yi,**

Edward Susko, Changbao Wu, Derek Bingham, Fang Yao, Matías Salibián-Barrera, Radu Craiu, Lei Sun and David Haziza.

In 2019 eligibility will be limited to candidates who received their PhD (or equivalent degree) in the year 2004 or subsequently. The CRM-SSC Prize committee may exceptionally consider candidates who have received their degree prior but very near to the year 2004, if it can be demonstrated that special circumstances, such as parental leaves or other leaves of absence from work, delayed professional achievements. Current membership in the SSC is not a prerequisite. The nominations will be examined by an Advisory Committee consisting of five members, three of whom are appointed by the SSC and two by the CRM. The committee is chaired by one of the two CRM representatives.

Nominations, including at least three letters of support, an up-to-date curriculum vitae (with a list of publications) and a suggested citation to accompany the award should be submitted to the CRM before **February 1, 2019**. As files are not carried over from one year to the next, nominations must be renewed each year.

Please submit nomination files by email to the attention of the Director of the CRM at nomination@crm.umontreal.ca.

2019 SSC Elections: Call for nominations



Members of the SSC are hereby invited to volunteer or suggest names to fill positions in the SSC. A preliminary slate of candidates is to be presented in November by the Election Committee. Suggestions of names or nominations are requested for the following positions.

MEMBERS OF THE EXECUTIVE COMMITTEE OF THE SSC (Three-year terms)

- President-Elect
- Public Relations Officer

REGIONAL REPRESENTATIVES ON THE BOARD OF DIRECTORS

(Two-year terms)

Regional representatives from all regions:

- Atlantic Provinces (1)
- Quebec (2)
- Ontario (2)
- Manitoba, Saskatchewan, Northwest Territories, Nunavut (1)
- Alberta, British Columbia, Yukon (1)

SECTION OFFICERS

(Three-year terms; two-year terms for SMS)

Nominations or suggestions are requested for executive positions in the six sections:

- Actuarial Science Section (President-elect, Secretary)
- Biostatistics Section (President-elect, Secretary)
- Business and Industrial Statistics Section (President-elect, Secretary)
- Probability Section (President-elect, Secretary)
- Statistical Education Section (President-elect, Secretary)
- Survey Methods Section (President-elect, Secretary)

MEMBERS OF THE ACCREDITATION COMMITTEE

Four positions will be elected, each for a three-year mandate. Candidates must be P.Stat. members.

MEMBERS OF THE ACCREDITATION APPEALS COMMITTEE

Two positions will be elected, each for a three-year mandate. Candidates must be P.Stat. members.

Please communicate your suggestions to any member of the Election Committee before October 15, 2018. More formal nominating petitions (signed by five members of the SSC) may be sent before January 15, 2019 to the chair of the committee.

The Election Committee for 2018-2019 consists of the following members:

Hugh Chipman, Chair

Yi Lu, Actuarial Science
Joel Dubin, Biostatistics
Shirley Mills, BISS
Richard Lockhart, Probability
Bruce Dunham, Statistical Education
Mahmoud Torabi, Survey Methods
Kevin Keen, Accreditation
Sylvia Esterby, Appointed
David Haziza, Appointed
Cyntha Struthers, Appointed

Chair of the Election Committee

Hugh Chipman
Acadia University
hugh.chipman@gmail.com

CJS Coming Attractions



The Canadian Journal of Statistics
La revue canadienne de statistique



In the third issue of 2018, *The Canadian Journal of Statistics* presents eight papers covering a number of topics including Bayesian inference, model checking, variable selection, sampling design, prediction, and missing data.

The first article, coauthored by **AL-LABADI** and **EVANS**, explores **model checking procedures based on the use of the Dirichlet process and relative belief**. The authors discuss the unique advantages of using such a combination. In the implementation of the proposed methods, it is important to properly select the hyperparameters for the Dirichlet process. The authors advocate a particular choice for the base distribution that avoids prior-data conflict and double use of the data. Several examples are presented to demonstrate the performance of the approach.

For sparse and high-dimensional data analysis, a valid approximation of the L-zero norm plays a key role. However, there has been little study of the L-zero norm approximation in the Bayesian paradigm. Motivated by this, **GOH** and **DEY** introduce a new prior, called the **Gaussian and diffused-gamma prior**, which leads to a nice L-zero norm approximation under the maximum a posteriori estimation. To develop a general

likelihood function, the authors utilize a class of divergence measures that can handle various types of data including count, binary, and continuous data.

The next two papers consider variable selection from different perspectives. There has been limited work on variable selection for recurrent event data, and **ZHAO, SUN, LI and SUN** propose the **broken adaptive ridge regression approach** for simultaneous parameter estimation and variable selection. Rather than directly generalizing penalized procedures for linear models, the authors introduce a new penalty function. In addition to establishing the oracle property, they also show that the method has the clustering or grouping effect when the covariates are highly correlated.

Concerning sparse finite mixtures of regression models, **KHALILI and VIDYASHANKAR** describe hypothesis testing approaches that take into account model selection uncertainty. The methods asymptotically control the family-wise error rate at a prespecified nominal level, while accounting for variable selection uncertainty. The authors provide examples of consistent model selectors and describe methods for improving the finite-sample performance. The performance of the methods is demonstrated via numerical studies.

The fifth and sixth papers examine statistical designs. **YI and LI** discuss the **asymptotic optimality of statistical inference for response-adaptive designs**; such designs have ethical advantages over traditional methods for clinical trials. They derive an upper bound on the power of statistical tests. They also show that the Wald statistic is asymptotically optimal in terms of achieving this upper bound.

HU considers the construction of robust sampling designs for the estimation of threshold probabilities in spatial studies. In particular, averaging the mean squared error of the predicted values relative to the true values over all possible covariance structures in a neighbourhood of the experimenter's nominal choice, the author proposes designs for which the estimation of the threshold probabilities is robust to possibly misspecified regression responses or covariance structures.

The next article is related to small area estimation, which often involves constructing predictions with an estimated model followed by a benchmarking step. In the benchmarking operation, the predictions are modified so that their weighted sums satisfy constraints. The most common constraint requires a weighted sum of the predictions to be equal to the same weighted sum of the original observations. Concerning this, **BERG and FULLER** propose **two benchmarking procedures for nonlinear models**: a linear additive adjustment and a method based on an augmented model for the

expectation function. They also present variance estimators for the benchmarked predictors.

The final paper, coauthored by **BINDELE** and **ADEKPEDJOU**, deals with rank-based inference in the presence of missing data. The authors propose a robust and efficient approach for estimating the true regression parameters when some responses are missing not at random. The large-sample properties of the proposed estimator are established under mild regularity conditions. Monte Carlo simulation experiments are carried out to show that the new estimator is more efficient than the least squares estimator when the model error distribution is heavily tailed or contaminated or when the data contain gross outliers.

Enjoy the new issue!

Grace Y. Yi
CJS Editor

CANSSI News



Canadian Statistical Sciences Institute
Institut canadien des sciences statistiques

Data • Discoveries • Decisions
Données • Découvertes • Décisions

CANSSI Headquarters at SFU

We are pleased to **announce a new collaboration** between the Canadian Statistical Sciences Institute (CANSSI) and Simon Fraser University (SFU). This fall SFU will become CANSSI's host institution, housed within SFU's Big Data Hub on the Burnaby campus.



SFU's commitment to research excellence that benefits broader society is well aligned with CANSSI's vision to be Canada's catalyst for discovery and innovation in statistical and data science research and training. Both institutions look forward to a strong relationship that will build on strengths in statistical and data science across the country.

We're excited about this next phase in CANSSI's evolution. What's next? We're currently designing the space which will be renovated this fall. Stay tuned for news about our grand opening!

CANSSI Inc.

In June, CANSSI was incorporated as a Not-for-profit Corporation. At our first Board meeting under this new structure, the provisional Board of Directors approved an updated by-law, admitted our **members**, and appointed our **officers**. At the Annual General Meeting in June, the new **Board of Directors** was approved. New Board members are **Mark Girolami**, Imperial College London; **Farouk Nathoo**, University of Victoria; and **Claudia Tebaldi**, NCAR. New Associate Directors are **Karen Buro**, MacEwan University (AD for Alberta/BC/Yukon), **Mohammad Jafari Jozani**, University of Manitoba (AD for Manitoba/Saskatchewan/NWT/Nunavut) and **Paul McNicholas**, McMaster University (AD for Ontario). We look forward to working with them.

We'd like to thank the outgoing Board members. **Francis Zwiers**, University of Victoria and Director of the Pacific Climate Impacts Consortium, has been with CANSSI since its inception. Francis' advice on a wide range of issues has been invaluable. **Chad Gaffield**, University of Ottawa, also finishes his term on the Board. Chad brought us into the world of digital humanities, now an integral part of our efforts in data science. **Arnoldo Frigessi**, University of Oslo and Director of BigInsight, introduced us to the outreach activities with industry taking place at BigInsight in Norway.

We owe a big debt of gratitude to **James Colliander** and PIMS, **Ian Hambleton** and the Fields Institute, and **Luc Vinet** and CRM. Without these three departing Board members and the mathematics institutes, CANSSI would not be what it is today. Thank you!

Upcoming Deadlines

- **Apply for SAMSI Undergraduate Workshop Travel Support** – due **September, 12, 2018**
- **Call for Workshop and Conference Proposals** – due **September 15, 2018**
- **Call for Proposals for the Distinguished Visitor Program** – due **November 30, 2018**
- **Call for Proposals for the Kick Start Research Program** – applications accepted at any time
- **Support for Undergraduate Datathons** – applications accepted at any time
- **CANSSI Call for Postdoctoral Fellowship Positions** – due **January 31, 2019**
- **Postdoctoral Opportunities** – various due dates
- **Employment Opportunities** across Canada – various due dates



Investing in Ontario's future



Advancements in AI and automation have shifted the focus of traditional industries, stimulating the emergence of entirely new sectors that are effecting a transformational change in the economic landscape. Ontario looks to be at the forefront of this changing economic landscape. As a world-class hub for STEM research and leader in artificial intelligence, clean technology, and public health, Ontario has seen robust growth in the

industrial sector over the last two decades. With over 15,000 tech companies and 5,200 start-ups alone in the Toronto-Waterloo region alone, the province is a hotbed of technological innovation.

Fundamental research in the mathematical and statistical sciences is inextricably linked to the development of the new technologies and products that have made Ontario a nascent technological superpower. A report by the European Science Foundation in 2010 remarked that “mathematics is the language of innovation,” and many sectors of Ontario’s industry depend on the mathematical sciences (including statistics) to advance discovery. Collaborations between industrial firms and academic researchers have assisted in accelerating the discovery process, moving innovation through the continuum from research to commercialization at a speed that allows companies to remain competitive in an increasingly cluttered global marketplace. However as Ontario’s industrial sector continues to grow, there is also a corresponding need for a large pool of talent capable of deploying the cutting-edge techniques and methodologies required to create the technologies of tomorrow.

Responding to this need for a critical mass of highly skilled quantitative scientists, **the Fields Institute has created the Fields Centre for Quantitative Analysis and Modelling (Fields-CQAM)**. Building on the strengths of similar programs at Mitacs and NSERC, Fields-CQAM focuses in on Ontario, forming a network of research and training laboratories hosted at universities across the province. These laboratories bridge the gap between academia and industry, leveraging research partnerships with industry partners to generate solutions to commercial problems in science and technology and train the next generation of quantitative scientists. From strengthening Ontario’s capacity for rapid response to emerging public health issues using mathematical modelling to applying quick-change detection to predict the health of commercial jet engines, Fields-CQAM researchers will progress Ontario’s leadership in research and industrial growth across a spectrum of current and emerging technologies, including statistical methods and techniques.

Speaking at the Fields-CQAM lab launch, Matt Davison, Dean of Western’s Faculty of Science and co-director of the Fields-CQAM Financial Data Analytics Lab, commented on the importance of Fields-CQAM as not only a generator of commercial solutions, but also to its value as a training program for producing highly-qualified personnel (HQP) ready to undertake research in the industrial sector.

“There are some fascinating mathematical problems that come of industry that we will never know about if we do not work with our colleagues in industry. We have fantastically well-trained students in mathematics that need to understand how to apply

their skills to practical problems in industry, and this gives them a training wheels environment to learn that.”

Academic and industrial reports note this existing gap in skills acquired by graduates in STEM fields, and the industrial skill requirements for highly technical job postings - with an estimated cost of \$24.3 billion Canadian per year to the Ontario economy in foregone GDP from the skills gap. Fields-CQAM aims to narrow this gap, through a multi-dimensional strategy spanning practitioners, academic disciplines, and industrial sectors. Leveraging the expertise of its lab members, the Fields-CQAM training program empowers HQP with advanced quantitative skills through participation in research, experiential learning internships, graduates courses, and workshops. Ensuring that undergraduates, graduates and current industry practitioners meet the skills needs of firms in areas of strategic importance to the province will facilitate their success in positions across the public, private and educational sectors, boosting the technological and economic development of Ontario.

Fields-CQAM looks not only to meet the current needs of the province with its research and training program, but also looks to the future. *“Fields-CQAM is looking forwards,”* said Huaxiong Huang, Director Fields-CQAM. *“Today’s research informs tomorrow’s innovation, and Fields-CQAM is laying the groundwork for future applications of our research, by not only developing the techniques and methodologies to drive forward technological innovation, but also by training the quantitative scientists to apply them.”*

By meeting Ontario’s immediate and long-term skills gap, Fields-CQAM will assist the province in becoming an internationally leading knowledge economy.

Fields-CQAM looks forward to participation from researchers in the statistical sciences by forming new labs, or joining existing labs, and organizing special research and training activities. For more detailed information, please visit: www.cqam.ca.

UBC Marshall Prize



Statistics PhD student **Tanja Högg** is the recipient of this year’s Marshall Prize. Tanja is carrying out her PhD research under the joint supervision of Paul Gustafson, John Petkau and Yinshan Zhao, focussing on Bayesian methods for the analysis of misclassified data that arise in the context of health administrative database studies. She works in



collaboration with Professor Helen Tremlett's Pharmacoepidemiology in Multiple Sclerosis (PiMS) Research Group, determining statistical methods that allow for detection of subtle signs and symptoms preceding the more defining features of MS. Tanja's research has already resulted in a major publication (*Statistics in Medicine* 2017).

The Marshall Prize is normally awarded annually to a Statistics graduate student who has achieved great distinction. The Prize honours Professor Albert Marshall for his seminal work in the theory of statistical reliability and for his contributions to the development of Statistics at UBC.

UBC Statistics Graduate Teaching Award



PhD student David Kepplinger is this year's recipient of the UBC Statistics Graduate Teaching Award. David has been, and continues to be, an important part of the Department's teaching mission. He has served for two years in the training of Department Teaching Assistants and has furthered training in modern methods in statistics through his teaching assistant work in the fourth year course in modern methods of statistics and his R programming workshop leadership in the Department's partnership with the UBC CREATE program, ECOSCOPE. In addition, he has contributed to hands-on training through his mentorship of co-op students. In everything he does, David shows not only a high level of expertise in statistics and computing but also a reflectiveness and spirit of personal growth, coupled with a

supportive and community-building approach.

University of Waterloo honorary degree



Robert J. Tibshirani, BMath, MSc, PhD
Doctor of Mathematics, honoris causa



An honorary doctorate, *honoris causa*, was presented to Robert J. Tibshirani at the 2018 spring convocation of the Faculty of Mathematics, University of Waterloo.

Robert Tibshirani is among the top statisticians today; his work has shaped the future directions of theoretical and applied statistics. Professor Tibshirani earned his bachelor degree in statistics and computer science from the University of Waterloo, a master's degree in statistics from University of Toronto, and a PhD in 1984 from Stanford University. In 1985 he joined the Department of Statistics and the Department of Preventive Medicine and Biostatistics at the University of Toronto, becoming a Full Professor in 1994. In 1998 he moved to Stanford University where he now holds appointments in the Departments of Biomedical Data Sciences and Statistics.

Commemorative Bench Dedication Ceremony



On June 1st, 2018 the Faculty of Mathematics, University of Waterloo, held a Bench Dedication Ceremony in honour of **Dr. Vidyadhar Prabakhar (V.P.) Godambe** in the Mathematics 3 (M3) Atrium. The afternoon was a beautiful one, filled with memories, stories, paintings, photos, and of course, the official presentation of the Godambe benches.

Memorials such as this are important because they act as historical touchstones. They are a source of inspiration and information for young people, and offer an insight into the history of an area. The one unveiled that day, adjacent the to the Statistics and Actuarial Science building, is a quiet place just off the beaten path. It is the ideal commemoration of Dr. Godambe and his great impact on the Department.

While each memorial that dots Waterloo's campus is unique, this one is especially distinctive – both through its design and inscription. Created by his friends and colleagues to preserve and commemorate their dear friend and colleague, the spot will ensure that Dr Godambe will never be far from the thoughts of future generations of statistics students.

To each person who contributed to this special project, and especially to Charu and Shobha, please accept our deepest *thanks*. Thank you again to those who attended the dedication, with hopes that you will have the opportunity to visit the Godambe benches in the future.

Samuel Wong joins the University of Waterloo



It is with great pleasure that the Department of Statistics and Actuarial Science at the University of Waterloo welcomed Assistant Professor Samuel Wong.

On July 1st 2018 Samuel (PhD 2013, Harvard University) joined our department from the University of Florida where he was an Assistant Professor. His research focuses on developing analytical methods to tackle data-driven problems arising in scientific domains. Currently his main applications of interest are protein structure prediction, learning dynamic systems in biology and quality assessment of forest products. Statistical areas featured in his work include Bayesian modeling, Monte Carlo methods and approximate inference strategies. With his data science focus, Samuel is keen on solving problems arising through collaboration, where both principled methodology and large-scale computation are needed.

NSERC DAS award



NSERC CRSNG



Professor Ruodu Wang received a \$120,000 **Discovery Accelerator Supplement (DAS)** from the Natural Sciences and Engineering Research Council (NSERC) for a proposal titled “*Model Uncertainty and Robustness in Risk Management.*” Ruodu Wang holds a University Research Chair in the Department of Statistics and Actuarial Science at the University of Waterloo.

The following is Professor Wang's winning proposal abstract.

The overall aim of this proposal is to develop the mathematical and economic theory as well as statistical and computational methods for model uncertainty and robustness in financial and insurance risk management. Model uncertainty and robustness issues, concerning “incorrect, unjustified or misused model outputs and reports”, have appeared as a central component of the current challenges in risk management and regulation. We address model uncertainty along several directions of practical importance in finance and insurance.

First, dependence uncertainty in risk aggregation, as a challenging yet common situation in practice due to challenges in high-dimensional statistical modeling and data limitation, has recently been a very popular research topic in risk management. Developing a risk evaluation procedure which allows for computing practically employable assessments of risk aggregation under dependence uncertainty is well known to be highly challenging. We address this problem by borrowing techniques from recent research development in the literature of robust optimization and dependence modeling.

Second, we investigate robustness issues in risk measures and the optimization of risk, thus addressing the quantitative consequences of managing and optimizing risks

according to slightly wrong assumptions, a most relevant situation.

Third, we bring model uncertainty into the problems of risk sharing and economic equilibrium for various settings of risk managers and financial contexts, and analyze the effect of model uncertainty and heterogeneous beliefs in a complex financial system. Along the way, we develop profound mathematical tools for fields related to the above problems, such as measure theory, decision theory, copulas, game theory, statistical robustness, non-convex optimizations, and probabilistic combinatorics.

Growing Pains and Gains in Statistics - The Toronto Way



These are interesting times for statistical science departments throughout the world. The demand for a statistician's expertise is at an all-time high across a multitude of sectors: tech, finance, health and not least government and academia. This gives us the power to grow and prosper as long as we can adapt quickly enough to a rapidly changing environment that may seem challenging to the more traditional aspects of our culture. But I bring good news from Toronto! Just like our city had to manage enormous growth over the last decade, so did our department have to navigate the tumultuous waters of growth and change that carry potential hazards but also great promises. So how did the University of Toronto's Department of Statistical Sciences manage to accelerate from (at most) two a year to 30+ job searches in the last five years and build a large network of joint interests with other departments, including the usual suspects e.g., Computer Science and Public Health, but also Astronomy and Astrophysics, Information sciences, Psychology and Sociology, to name just a few? Read on.

The story begins about eight years ago when the world learnt from Google leader Hal Varian that statisticians will be the sexiest professionals at the vortex of tech revolutions engulfing the world. Subsequently, the world learned that Data Science is much more than a semi-pleonastic association of terms. From Tukey's wishful thinking – nicely summarized in David Donoho's 2015 ("50 Years of Data Science", *JCGS* 2017) seminal piece that went viral before it even hit the printing presses – to Silicon Valley's high demand for scientists able to swim in a sea of data, emerged a vague, yet seductive idea about the kind of training that is suitable for the modern world. It turns out that ideal is a multifarious scientist capable of handling superhuman computing tasks and juggling

sound statistical methods while building authoritative subject-matter knowledge that can impact scientific discovery.

Incoming students at the University of Toronto have heard the call loud and clear which is why our specialist, major and minor programs have exploded in size. Since 2012, our undergraduate programs have *yearly* increased by 25 – 40 percent leading to the current cohort of over 3,500 statistics major, minor and specialist students. Yes! You have read those numbers correctly, and if it gives you pause as a neutral observer, imagine how we felt.

The pressure on our department has been enormous. Instead of panicking, the former chair of our department, James Stafford, has coordinated an ambitious plan to develop professional Master of Science programs, make numerous joint hires with other data-rich programs in the University and develop a strong undergraduate teaching culture with new course initiatives that have quickly turned us into a showcase for the Faculty of Arts and Sciences. A quick visit to our webpage (www.utstat.toronto.edu) will reveal the extent of these successful initiatives and the unparalleled (to my knowledge) growth of our department. We have currently over 30 research and teaching stream faculty in the department, working in statistics and its intersections with computer science (machine learning, visualization, neural nets, etc.) and other disciplines, such as sociology, genetics, neuroscience, public health and more. These departments have a genuine need to make sense of their data, usually big piles of them. In turn, working with other departments opens new horizons for our faculty, introducing them to interesting problems and allowing our department to grow in directions that would have remained unexplored otherwise. The mantra “follow the data” has never been more fitting than now.

Of course, these innovations could have led to many outcomes, somewhat less scintillating. As we take a retro- and prospective look at our evolution, we realize that at the core of our story lie a penchant for data-driven vision augmentation as well as many wonderful students, faculty and staff, who have bootstrapped this department into becoming an important center for Data Science research and education.

Speaking of very good people, I would like to encourage your undergraduate trainees to apply to our graduate program, while we invite applications from your PhD students and postdocs for our eight open positions.

Radu V. Craiu¹, Professor and Chair
Department of Statistical Sciences
University of Toronto

¹The author thanks Professors Nancy Reid and James Stafford and Ms. Doerthe Keilholz for edits and comments.

New A.Stat. Member



TAYLER SCORY, A.Stat. #129



Taylor received a Bachelor of Science in Statistics as well as a Bachelor of Science in Cellular, Molecular and Microbial Biology from the University of Calgary in 2015. Currently, she is pursuing a Master of Science degree in Statistics at the University of Calgary, where she is studying segregation analysis and penetrance model estimation. Taylor is interested in statistical genetics and biostatistics, and hopes to work in health research.

Education:

BSc, 2015, University of Calgary, Statistics

BSc, 2015, University of Calgary, Molecular and Microbial Biology

Current Position:

Graduate Student, second year of an MSc in Statistics at the University of Calgary

Email: tdscory@ucalgary.ca

Job Announcement - University of New Brunswick



Dean of the Faculty of Science University of New Brunswick

Founded in 1785, the University of New Brunswick (UNB) is proud to be one of the first public universities in North America and the oldest English-language university in Canada. From its main campuses in Fredericton and Saint John, New Brunswick, UNB offers undergraduate and graduate programs in more than 75 disciplines and continuing education in a variety of fields. With full-time and part-time undergraduate and graduate degrees in Science, Education, Arts, Business Administration, Computer Science, Nursing, Engineering, Forestry, Law and Kinesiology, as well as certificates and diplomas, UNB's innovative programs prepare students for the real world.

The University of New Brunswick's Faculty of Science is the most comprehensive science faculty in New Brunswick, with a full-time faculty complement of 85, and over 25 undergraduate and graduate degree possibilities in a variety of programs, ranging from a general science degree option to biology, chemistry, environmental biology, earth sciences, environmental geochemistry, statistics, mathematics, physics, and psychology. The faculty's broadly-based research capacity of international caliber continues to strengthen with the addition of Canada Research Chairs, funding commitments for multidisciplinary research programs, and several research centres including: The Planetary and Space Science Centre, The Canadian Rivers Institute, The Centre for Laser, Atomic and Molecular Sciences, The MRI Research Centre, and The Applied Statistics Centre.

Reporting to the Vice-President Academic (Fredericton), the **Dean of the Faculty of Science** provides academic and strategic leadership to the Faculty of Science and is part of the university's academic leadership team. The Dean works closely with faculty, staff, students and other academic administrators within the faculty and across the university to foster interdisciplinary collaboration and ensure that academic programs meet the objectives outlined in the university's Academic Plan. The next Dean will continue to support and strengthen the faculty's fundamental and applied research, will explore innovative program delivery, and will seek out opportunities to enhance inter-departmental and interdisciplinary partnerships internally and externally.

As the ideal candidate, you are an accomplished academic and researcher with success in developing interdisciplinary programs and research initiatives. Your scholarship and teaching will support an appointment with tenure in the Faculty of Science at UNB. A collegial leader, you invite ideas and advice from others, invest time in mentoring and supporting colleagues and build and maintain strong relationships within and outside the university. You bring administrative experience, strong analytical and problem-solving skills and financial acumen. You are comfortable and capable at the senior leadership table, making decisions that represent your Faculty and the interests of the students and the university more generally. An effective and articulate advocate and spokesperson, you are able to build relationships within and across disciplines, institutions, and communities and have a track record of developing and maintaining the institutional and industry-related partnerships that are indispensable to the Faculty's success.

The University of New Brunswick is committed to employment equity and fostering diversity within our community and developing an inclusive workplace that reflects the richness of the broader community that we serve. The University welcomes and encourages applications from all qualified individuals who will help us achieve our goals, including women, visible minorities, Aboriginal persons, persons with disabilities, persons of any sexual orientation, gender identity or gender expression. Preference will be given to Canadian citizens and permanent residents of Canada.

The University will provide support in its recruitment processes to applicants with disabilities, including accommodation that takes into account an applicant's accessibility needs. If you require accommodation because of a disability or for any other reason during the interview process, please contact KBRs.

If you're interested in this opportunity, contact Anna Stuart or Kaitlyn LeMoine at 1.866.822.6022, or submit your application online at: <http://www.kbrs.ca/Careers/12275>

Job Announcement - Ontario College of Pharmacists



Ontario College of Pharmacists

Putting patients first since 1871

MANAGER, DATA and INFORMATION MANAGEMENT

The Ontario College of Pharmacists is the registering and regulating body for the profession of pharmacy practice in Ontario. The College as regulator has played a key role in safeguarding our health care system by providing the public with quality pharmaceutical service and care. The mandate of the College is to serve and protect the public and to continue to deliver on its mandate, the College is currently recruiting to fill the position of **Manager, Data and Information Management**.

Position Summary

The Manager, Data and Information Management is responsible for providing leadership on all activities associated with managing the College's Data and Information Management Programs. The successful candidate will have oversight over the development and implementation of a data management program, data governance framework, as well as policies and standards to optimize data as an information asset. The successful candidate will be responsible for leading the Data and Information Management Program to ensure access to information and preservation of the College's corporate memory.

Responsibilities

- Provide guidance on the maintenance, safekeeping and lifecycle management of the official records of the College in all forms, ensuring that the corporate records are retained and disposed of in accordance with

- all retention policies, applicable laws and regulatory requirements
- Oversee the development and implementation of a data management program, data governance framework as well as policies and standards to optimize data as an information asset
- Identify new opportunities pertaining to the use of data and information management to achieve efficiency and effectiveness
- Develop a holistic approach to manage corporate information (including data) by implementing processes, roles, controls and metrics that treat information as a valuable business resource/asset
- Define information/data standards along with appropriate policies, privileges and responsibilities of information/data owners and users to ensure required level of both quality and risk management
- Develop, define and sustain a sound records management program infrastructure for paper and electronic records including internal controls and tools
- Manage and supervise employees within the Data and Information Management department including hiring, reviewing work plans, setting performance objectives, monitoring performance, providing performance feedback, and assigning and reviewing work
- Identify and communicate business risk related to data analytics as well as information management policy, procedures and program development and implementation
- Develop a compliance and monitoring program to ensure information principles based on retention policies, legislative requirements, industry standards and internal policies and procedures are being followed by staff
- Support legal counsel, senior management and staff in complying with all retention requirements including litigation holds and with production for discovery proceedings

Key Attributes

- Comprehensive knowledge of records and information management theories, principles and practices; including classification and retention scheduling, preferably in a regulatory environment.
- Proficiency in SQL, PowerPoint, Project, Visio, Excel and Word
- Demonstrated proficiency in information management applications.
- Strong verbal and written communication skills and listening skills
- Concise report writing abilities
- Demonstrated experience in managing within team based organizations and multifunction teams.
- Demonstrated ability regarding diplomacy and discretion.
- Acute attention to detail
- Must be able to meet deadlines
- Requires a high level of judgment appropriate to applying established practices, policies or procedures to standard work assignments and resolving frequent problems.
- Must possess demonstrated ability to work independently and to lead others in projects.
- Understanding of industry standards regarding records management technologies and software capabilities for lifecycle management of digital records.
- Knowledge of legislation in order to respond to concerns and identify discrepancies in records
- Experienced in effectively coordinating multiple projects, executing multiple tasks simultaneously and efficiently while working with conflicting priorities in a fast-paced environment.
- Exercises judgment and uses discretion with highly confidential materials.
- Team player with solid interpersonal skills combined with a winning customer service attitude.
- Strong analytic skills
- Effective problem solver and decision maker
- Takes initiative on projects/work – think outside the box for solutions

We are accepting applications provided you have the following qualifications:

- University degree in Information and Records Management, Statistics, Information Technology or Library Sciences is required
- A Certified Records Manager (CRM) designation is an asset
- 7+ years' experience in an analytical role working in data analytics and information management environment
- 3+ years' of Management experience
- Experience in a regulatory or health care environment is an asset

If you are interested in joining the College, please forward your cover letter and resume in confidence, by August 14 stating salary expectations to **hr@ocpinfo.com**.

OCP is committed to supporting accessibility and diversity. Requests for accommodations can be made at any stage of the recruitment process. Applicants need to make their requirements known when contacted.

We wish to thank all applicants for their interest in this position. We will only contact those whose skills, knowledge and experience most closely match the requirements of the position.

Job Announcement - York University



Assistant Professor in Modelling Infectious Disease Data & Decision Making Department of Mathematics & Statistics Faculty of Science, York University

Applications are invited for a tenure-track faculty appointment in Modelling Infectious Disease Data and Decision Making at the Assistant Professor level in the Department of Mathematics and Statistics at York University to commence July 1, 2019, or thereafter.

The faculty position is initially funded in part by the recently awarded NSERC/Sanofi Industrial Research Chair (IRC) in Vaccine Mathematics, Modelling and Manufacturing

program. The successful candidate is expected to engage with and benefit from this IRC program.

The IRC program team of collaborators led by Professor Jianhong Wu in the Department is composed of faculty members from the Statistics Section and the Applied Mathematics Section. Existing expertise of the IRC program team includes but is not limited to: stochastic optimization; statistical computing; infectious disease modeling; numerical analysis of differential equations; Markov chains and Monte Carlo methods; Bayesian inference. The successful candidate is expected to be a member of this IRC team. The collective expertise of the IRC team is expected to be mobilized to develop complex models capturing sources of heterogeneity and uncertainty in infection dynamics and to explore high performance computing for the purpose of testing hypotheses, identifying promising vaccine candidates, simulating trials prior to implementation, informing vaccination production priority and immunization program design. Further information about the Department and the University can be found at <http://mathstats.info.yorku.ca/>

The successful candidate must have a PhD degree in mathematical sciences or a related area, and must have a proven record of independent research excellence, and evidence of potential for superior teaching and mentoring of trainees at all levels. The new hire is expected to develop an excellent and innovative research program to analyze, model, and simulate public health data, and to have the potential for leading interdisciplinary research to inform decisions on public health policy and industrial production. The successful candidate must be suitable for prompt appointment to the Faculty of Graduate Studies. Pedagogical innovation in high priority areas such as experiential education and technology enhanced learning is an asset.

Applications must be received by October 15, 2018. Only applications received through the AMS MathJobs website, www.mathjobs.org, will be considered. Applicants will be asked to provide three signed letters of reference, a statement on teaching, a statement on research and a covering letter. Applicants wishing to self-identify can do so by downloading, completing and submitting the form found at: <http://acadjobs.info.yorku.ca/>. Once this form has been signed it can be uploaded to MathJobs.

All York University positions are subject to budgetary approval. York University is an Affirmative Action (AA) employer and strongly values diversity, including gender and sexual diversity, within its community. The AA program, which applies to Aboriginal people, visible minorities, people with disabilities, and women, can be found at <http://yorku.ca/acadjobs> or by calling the AA office at 416-736-5713. All qualified

candidates are encouraged to apply; however, Canadian citizens and Permanent Residents will be given priority.
