# SSC 2019 - Scientific Program


SSC 2019, the 47th Annual Meeting of the Statistical Society of Canada will take place at the University of Calgary, May 26-29, 2019. The meeting will be preceded by the **Canadian Statistics Students Conference, May 25, 2019,** before the Annual Meeting, also at **University of Calgary**. The Progam Committee chaired by **Lisa Lix** (University of Manitoba) have organized an excellent program, as highlighted below.

A number of workshops organized by the Sections of the Society will run concurrently on **Sunday, May 26.** The first plenary session starts Monday morning with the Presidential Invited Address, this year by **Sylvia Richardson**, University of Cambridge. That evening there is the Welcome Reception. The scientific program features both Committee- and Section-sponsored invited sessions, sessions with contributed papers and posters, as well as the Case Studies Competition.

**WORKSHOPS**

Six workshops are organized for Sunday, May 26th. For a detailed description of these training activities, which are open to all meeting registrants including students, see Workshops on the meeting website https://ssc.ca/en/meeting/annual/2018/workshops.

**Educational Statistics Section**
**Title:** Developing a Teaching Portfolio
**Facilitators: Natasha Kenny,** University of Calgary; **Bruce Dunham,** University of British Columbia; **Jim Stallard,** University of Calgary

**Business and Industrial Statistics Section**
**Title:** Functional Data Analysis for Big Data
**Facilitator: Jiguo Cao,** Simon Fraser University

**Biostatistics Section**
**Title:** Lessons from a life in applied statistics
**Facilitator: Martin Bland,** University of York

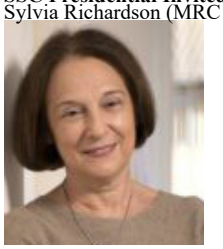
**Probability Statistics Section**
**Title:** Monte Carlo Methods
**Facilitator: Aaron Smith,** University of Ottawa

**Accreditation Committee**
**Title:** Making a Living as an Accredited Statistician: Tips from the Frontlines of Experienced, Successful Accredited Consulting Statisticians
**Panel Session Facilitator: Janet E. A. McDougall,** McDougall Scientific Ltd

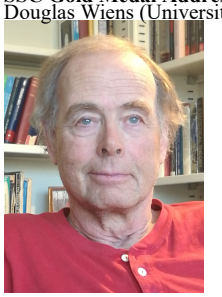
**Survey Methods Section**
**Title:** When Some Data are Missing: Foundations of Imputation Theory and Recent Developments
**Facilitator: David Haziza,** Université de Montréal

**INVITED ADDRESSES**

**SSC Presidential Invited Address**
Sylvia Richardson (MRC Biostatistics Unit, University of Cambridge)



**SSC Gold Medal Address**
Douglas Wiens (University of Alberta)



**SSC 2018 Impact Award**
Geneviève Gauthier (HEC Montréal)

**Isobel Loutit Invited Address**
Max Morris (Department of Statistics, Iowa State University)

**Survey Methods Section Presidential Invited Address**
Jack Gambino (Statistics Canada)

**Biostatistics Section Presidential Address**
Martin Bland (University of York, UK)

We look forward to seeing you at SSC 2019.

Lisa Lix, Program Chair
On behalf of the SSC 2019 Program Committee
Matias Salibian-Berrera
Russell Steele
Andrea Benedetti
Wenqing He
Johanna Neslehova
Karen Kopiak
Alexander de Leon
Ying Zhang
J Concepcion Loredo-Osti

## Canadian Statistics Student Conference 2019

The **7th Annual Canadian Statistics Student Conference (CSSC)** will take place on Saturday, May 25th, 2019 at the University of Calgary, Calgary, Alberta, the day before the Statistical Society of Canada 2019 Annual Meeting opens.

This conference is all about engaging students through research presentations, statistical skill development workshops and talks, and an interactive career session with invited statisticians from different professional areas.

On this year's program, we are pleased to announce a **keynote address** on interdisciplinary work and successful leadership in the statistical field, given by **Professor Charmaine Dean,** the vice president for research at the University of Waterloo. Dr Dean is the winner of the 2003 CRM-SSC Award for her outstanding contributions to the statistical sciences and her exemplary dedication to the profession, in Canada and abroad. In addition to the **student scientific program, a career panel** with speakers from government, industry and academia will be held, as well as a **skills session** on the breach between statistics and data mining. We are also holding a **fully interactive workshop on managing big data**. Detailed conference information will be shared on the SSC website.

Several prizes will be awarded, including:

- Undergraduate Poster Competition Awards
- Best Posters of the SSC Student Conference Awards
- Best Papers of the SSC Student Conference Awards

**Mentors:** This is a great opportunity to introduce or encourage conference participation and to enhance your students' skills in presenting their research. You are also invited to register and support them!

Registration opened in January (http//ssc.ca/en/meeting/seventh-annual-canadian-statistics-student-conference) and is open to students, recent graduates, faculty, and other members of the statistics community. For more information, please contact the SSC Student Conference organizing committee at ssc.student.conference@gmail.com.

We look forward to seeing you there,
from the Conference Coordinators,

Myrtha Reyna and Anita Brobbey


## SSC 2019 - Case Studies in Data Analysis Competition


The Case Studies in Data Analysis Poster Competition will be held during the Annual Meeting at the University of Calgary. The case studies are intended to provide enthusiastic teams of graduate and senior undergraduate students with the opportunity to apply their knowledge to the analysis of big datasets. Each participating team will choose to analyze one of the two data sets described below. Each team is strongly encouraged to identify a faculty member to support the members as they develop their analytic approach and final presentation. Team members will work together to present a poster summarizing their methods and analysis results at the Annual Meeting.

**Case Study #1: Counting Cells from Microscopic Images**

Teams that select this case study will use synthetic microscopic imaging data from the Broad Bioimage Benchmark Collection to develop statistical machine learning methods to predict the number of cell counts in the images.

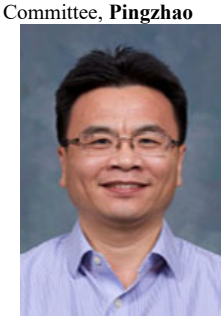
**Case Study #2: Risk of Cardiovascular Disease among Osteoarthritis Patients: Exploring the Relationship in a National Health Survey**

Teams that select this case study will use real data from Canadian Community Health Survey (CCHS) to first create an 'analytic dataset' (combining from cycles 1.1, 2.1 and 3.1), and then use that dataset to estimate crude and adjusted measures of association between osteoarthritis and self-reported heart diseases.

The Committee of the Award for Case Studies in Data Analysis will consider such attributes as result accuracy, innovation of the analysis methods, technical clarity, and cohesiveness of the analysis, interpretation and presentation of results in choosing a winning team for each competition. The Committee reserves the right to decline to

make an award for each case study if the number of entries is insufficient.

Teams interested in participating in the competition must register by **April 15, 2019,** by e-mailing the Chair of the Case Studies in Data Analysis Committee, **Pingzhao Hu (Pingzhao.hu@umanitoba.ca).**



Many thanks to members of the 2019 Case Studies in Data Analysis Committee for their contributions:
**Ehsan Karim,** School of Population and Public Health, University of British Columbia
**Kathryn Morrison,** Precision Analytics Inc. and McGill University
**Chel Hee Lee,** Critical Care Medicine, Alberta Health Services & University of Calgary
and other individuals: **François Brisebois** (Methodology Branch, Statistics Canada) and **Qian Liu,** University of Manitoba.

## Survey Methods Section Program for SSC 2019

The Survey Methods Section (SMS) is pleased once again to be directly involved in the SSC Annual Meeting by offering a full-day workshop, a presidential invited address, three invited sessions and several contributed sessions. We would like to encourage our members and others interested in survey methods to attend. In addition, the section is sponsoring an award for the best student presentation in the field of Survey Methodology. Students who are presenting at the annual meeting are encouraged to submit their paper to the SMS. You could win a $300 award! Visit our website for more information.

Here are some details on the SMS program :

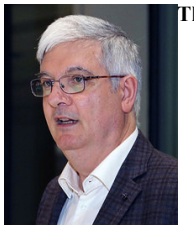
### WORKSHOP

**When Some Data is Missing: Foundation of Imputation Theory and Recent Developments in the Field**

Organizer: **Susie Fortier,** Statistics Canada
Facilitator: **David Haziza,** University of Montreal

The most common way to treat item nonresponse in surveys is to construct one or more replacement values to fill in a missing value, a process known as imputation. Single imputation consists of replacing a missing value by a single replacement value, whereas multiple imputation uses two or more replacement values. In this workshop we will review various imputation procedures used in national statistical offices as well as the properties of point and variance estimators in the presence of imputed survey data. The workshop will provide the participants with insights about new developments in the field. Several examples and simulation studies will be presented.

### PRESIDENTIAL INVITED ADDRESS



**The Evolving Role of Non-survey Data in Official Statistics**

Organizer: **Susie Fortier,** Statistics Canada
Speaker: **Jack Gambino,** Statistics Canada

### INVITED SESSIONS

**SESSION 1: Integration of probability and non-probability samples**
Organizer: **Jean-François Beaumont,** Statistics Canada

**Changbao Wu,** University of Waterloo
**Kenneth Chu,** Statistics Canada
**Marie-Hélène Felt,** Bank of Canada

**SESSION 2: Measuring the Quality of Multisource Statistics**
Organizer: **Wesley Yung,** Statistics Canada

**John L. Eltinge,** U.S. Census Bureau
**Susie Fortier,** Statistics Canada
**Hannah Finselbach,** Office for National Statistics

**SESSION 3: Modeling, Imputation and non-response**
Organizers: **Kim Huynh,** Bank of Canada and **Susie Fortier,** Statistics Canada

**Katherine J. Thompson,** U.S. Census Bureau
**Valéry Dongmo Jiongo,** Canadian Mortgage and Housing Corporation
**Geneviène Vezina,** Statistique Canada

## New Investigator Presentation Award at SSC 2019


Returning to the 2019 SSC Annual Meeting is the **New Investigator Presentation Award** for contributed talks given by New Investigators. Entries will be judged on the quality of both the presentation and the underlying research. The award consists of a certificate and a $500 cash prize.

To be eligible for the award the presenter must be within five years of beginning their first academic appointment (i.e., postdoc or assistant professor) and within 10 years of completing their PhD program. Presentations based on joint work with a collaborator who does not fit the definition of a New Investigator are eligible, as long as the New Investigator presents the work.

To enter, the New Investigator must:

• Submit the abstract of the contributed talk through the meeting website;
• Indicate at the time of submission of the abstract in the space provided on the meeting website that they wish to be considered for the award;
• Email to sscnewinvest@ssc.ca the date they obtained their PhD and the date they began their first academic appointment, so that their eligibility can be confirmed.

Thank you in advance for your interest!

Nathaniel Stevens
Chair, New Investigator Committee

## SSC 2019 - Local Arrangements


The 47th Annual Meeting of the Statistical Society of Canada will be held at the Univeristy of Calgary from **Sunday, May 26 to Wednesday May 29, 2019**. The meeting will be preceded by the **Canadian Statistics Students Conference** on Saturday, **May 25, 2019**, also at **University of Calgary**. The Local Arranegements Co-Chairs are **Karen Kopciuk** and **Alexander de Leon** frome the University of Calgary; the Program Chair is **Lisa Lix** of the University of Manitoba.

We look forward to seeing everyone in Calgary!

**LOCAL ARRANGEMENTS**

**About the University and Conference Location**
The Departments of Mathematics and Statistics and Community Health Sciences at the University of Calgary are thrilled to be hosting the SSC's annual meeting for the very first time. As one of Canada's top comprehensive research universities, the University of Calgary combines the best of university tradition with the city of Calgary's vibrant energy and diversity. It is located in the heart of Southern Alberta, which are the traditional territories of the people of Treaty 7 region. The City of Calgary is also home to the Metis Nation of Alberta, Region III.

Local arrangements have been made with several nearby hotels at preferred pricing; in addition, a number of rooms have been blocked at Hotel Alma, the university hotel, and in university residences on campus. Please book your hotels early to avail of special room rates!

**Social Events**

Following established tradition, the Meeting will open with the **Reception Mixer** on Sunday evening, May 26, 2019, at the EEEL (Energy Environment and Experiential Learning) Building on the University of Calgary campus. The **Banquet** on Tuesday evening, May 28, 2019, will take place at the Red and White Club, overlooking McMahon Stadium football field, home of the Calgary Stampeders; it is a short 15-minute walk from campus and close to Motel Village. The **Student BBQ** will be held on Monday evening, May 27, 2019, in the MacEwan Conference and Event Centre on campus.

**Local Attractions**
Along with the city's famous hospitality, visitors to Calgary enjoy uncompromised convenience. Attendees will have plenty to see and do, whether it's taking part in one of the city's 700-plus annual cultural events, experiencing the tastes at over 6,000 restaurants, shopping at hundreds of unique retail shops, enjoying the city's arts and entertainment scene or exploring urban parks and river pathways.

Calgary offers a mix of big-city energy and natural beauty. Calgarians consider themselves fortunate that in addition to being next door to some of the world's most extraordinary natural beauty, like the Canadian Rocky Mountains, the Canadian Badlands and the Foothills of Southern Alberta, Calgary is also located close to a number of historic and cultural attractions, including four UNESCO World Heritage Sites. Please visit the conference website for detailed information about Calgary's local attractions.

**Transportation**
Calgary is easily accessible by direct flights from most major Canadian airports. Transportation options from the Calgary International Airport include the following: Bus Rapid Transit Route 300 to downtown, where one can transfer to the C-Train to get to Motel Village or main campus ($10.75 fare includes all-day access to our buses and C-Trains), the Allied Downtown Shuttle Service, taxis (taxi fare to campus is about $45), car rentals.

**Accommodations**
Blocks of rooms are available on campus at the Hotel Alma as well as at the residences. Additional blocks of rooms are available at four hotels in Motel Village, a short 20-25 minute walk from campus or 1 stop on the C-Train. See here for a list of options.

More detailed information with links to accommodation, travel and social events, as well as registration and the scientific program are available on the conference website.

## 2019 SSC Elections

In compliance with the SSC By-Laws, the Election Committee is publishing a list of candidates for positions on the Executive and Board of Directors that will become vacant on July 1, 2019. In addition, candidates for positions on the Executives of the Sections, and for positions on the Accreditation and Accreditation Appeals Committees are also provided. The biographical sketches for all candidates follow. Electronic voting will commence **on or before April 15th.**

## MEMBERS OF THE EXECUTIVE COMMITTEE
(Three-year Terms)

**PRESIDENT-ELECT**
(President, 2020-21; Past President, 2021-22)
**Wendy Lou**, University of Toronto

Wendy Lou is a Professor of Biostatistics and Statistics, and Head of the Division of Biostatistics at the Dalla Lana School of Public Health, University of Toronto. She is a Fellow of the American Statistical Association (ASA), and the Canada Research Chair in Statistical Methods for Health Care. Her research has focused on the development of statistical methodology for the study of chronic conditions and quality improvement, as well as on biomedical applications of the distribution theory of runs and patterns. Among her professional services, she has served as Member of the Regional Advisory Board for ENAR of the International Biometric Society, President of the Southern Ontario Chapter of ASA, Council of Chapters Representative on the Board of Directors of ASA, and Secretary/Treasurer of the Committee of Presidents of Statistical Societies (COPSS). She has served on the SSC Board of Directors as Ontario Regional Representative (2006-08), Public Relations Officer (2008-09), and Publications Officer (2009-2013), and was the Program Chair for SSC2009. She looks forward to continuing to serve the SSC.

**PUBLIC RELATIONS OFFICER**
**David Campbell**, Simon Fraser University

Dave is an Associate Professor in Statistics at Simon Fraser University. He has a BSc in Environmental Science from SFU, a MSc in Statistics from Dalhousie and a PhD in Statistics from McGill University. Dave has served as the SSC Public Relations Officer for the past 3 years. Dave is a co-organizer of a 3500 member Vancouver Learn Data Science meetup group. He works on statistical computing, Bayesian models, statistics for applied mathematics problems, and industrial research collaborations using text, image, and video data.

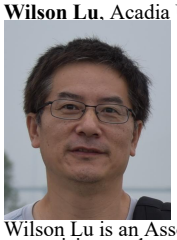
# REGIONAL REPRESENTATIVES ON THE BOARD OF DIRECTORS
(Two-Year Terms)

## ATLANTIC PROVINCES
(One to be Elected)

**Candemir Cigsar**, Memorial University of Newfoundland

Candemir Cigsar is an Assistant Professor of Statistics in the Department of Mathematics and Statistics at Memorial University. He received his Ph.D. from the University of Waterloo in 2010. After a postdoctoral period in Toronto and working as a biostatistician in the Princess Margaret Cancer Centre, he joined the faculty of Memorial University in June 2013. Candemir's current research interests lie in event history analysis pertaining to analysis of time-to-events, analysis of recurrent events, and multi-state modeling. The intrinsic motivation for his scholarly interests has been statistical issues arising from different disciplines such as medicine, public health, genetics and industry. Candemir has publications in scientific journals including *Annals of Applied Statistics, Technometrics* and *Genetic Epidemiology*.

**Wilson Lu**, Acadia University



Wilson Lu is an Associate Professor in the Department of Mathematics and Statistics at Acadia University. Wilson received his PhD in 2004 under Dr. Randy Sitter's supervision, and continued to work at Simon Fraser University as a PIMS Postdoc supervised by Dr. Derek Bingham. Wilson's main research interests are in the areas of complex surveys, resampling methods, calibration weights, and missing data.

## QUÉBEC
(Two to be Elected)

**Karim Oualkacha**, Université du Québec à Montréal

Karim Oualkacha is an Associate Professor in the Department of Mathematics at Université du Québec à Montréal (UQAM). He received BSc in Mathematics and MSc in Statistics and Operational Research from the University of Caddi Ayyad (Marrakesh), and MSc and PhD in Statistics from Laval University. His research interests are in the statistical challenges of sparse high-dimensional data and dependence modeling with applications in the area of statistical genetics. Karim has been involved with the SSC since 2012. Among others, he has served as a member of the Student Travel Grants Committee from 2012 to 2015, and he is the institutional representative of UQAM within the SSC, since 2016.

**Jean-François Plante**, HEC Montréal

Jean-François Plante is an Associate Professor at HEC Montréal. He has been involved in the SSC continuously since 2009. He is currently the managing editor of *The Canadian Journal of Statistics* and a Québec Representative on the board of the SSC. From 2013 to 2016 he served as Public Relations Officer, being de facto a member of the Executive Committee and of the Board. Jean-François received his training from Laval University (BSc, MSc), the University of British Columbia (PhD) and the University of Toronto (postdoc). He also spent a sabbatical at the University of Waterloo. His current research interests focus on statistical methods for distributed (big) data and applications of statistical learning.

**Alexandra Schmidt**, McGill University

Alexandra M. Schmidt is an Associate Professor in the Department of Epidemiology, Biostatistics and Occupational Health at McGill University. Before taking the position at McGill she was a Professor in Statistics at the Federal University of Rio de Janeiro, Brazil. She received a PhD in Statistics in 2001 from the University of Sheffield, UK, where she was supervised by Anthony O'Hagan. In 2001-2002 she did a post-doc with Alan E. Gelfand at the University of Connecticut, USA. Her main area of research is the development of flexible spatial and spatio-temporal models. In 2017 she was awarded the Distinguished Achievement Medal of ASA's Section on Statistics and the Environment (ENVR). In 2010 she became an Elected Member of the International Statistical Institute (ISI), and in 2008 she was awarded the Abdel El-Shaarawi Young Investigator Award of The International Environmetrics Society (TIES). Over the past decade she has been very active in the international statistical scenario. She has experience serving several scientific societies in different capacities. Currently, she is the Program Chair of the Statistics in the Environment Section of the ASA and Chair of the Environment Sciences Section of The International Society for Bayesian Analysis (ISBA). She was President-Elect (2014), President (2015), and Past-President (2016) of ISBA. During her term as President of ISBA she encouraged the creation of the Section on Bayesian Education Research and Practice, the creation of the ISBA's Eastern Asian Chapter, and the realization of the first ISBA world meeting in China, which will be held in 2020. She also served ISBA as Program

Chair in 2010 and member of the Board from 2007 to 2009. She was member of the Board of the Brazilian Statistical Society from 2006 to 2010. She is the Chair of the Local Organizing Committee of the 2022 ISBA World Meeting which will be held in Montreal.

**ONTARIO**
(Two to be Elected)

**Elif Acar**, Hospital for Sick Children

Elif Acar is a Senior Biostatistician at the Hospital for Sick Children and an Assistant Professor in the Department of Statistics at the University of Manitoba and University of Toronto. Her research interests include multivariate statistics, nonparametric inference, statistical genetics and survival analysis. She received her MSc degree from the University of New Hampshire in 2006 and her PhD degree from the University of Toronto in 2010. Upon completion of her PhD, she was awarded the Centre de recherches mathématiques (CRM) Postdoctoral Fellowship in Statistics for 2010-2012. She has been a member of the SSC since 2010 and served in the SSC New Investigators Committee between 2012-15.

**Xu (Sunny) Wang**, Wilfrid Laurier University

Xu (Sunny) Wang is an associate professor in the Department of Mathematics at Wilfrid Laurier University. Prior to joining Laurier, Sunny taught Statistics at St. Francis Xavier University (Nova Scotia, Canada), where she received the University Outstanding Teaching Award in 2016. Sunny received her Ph.D. in Statistics from the University of Waterloo (Ontario, Canada). Sunny's current research focuses on automating statistical learning and data mining tools for complex data classification problems including compound structures and high dimensional time series from medical and financial fields. Sunny has been very active in the SSC since the beginning of her profession. She was the local representative at St. Francis Xavier University, and has served on many SSC committees including Education Committee, Finance Committee, Case Study Award Committee, and the treasure for Section of Statistical Education. Sunny devotes herself to the Statistical Education, and has been nominated as the President-elect for the Section of Education for 2019-2020. With passion and enthusiasm, Sunny would like to continue serving the SSC.

**Bethany White**, University of Toronto|

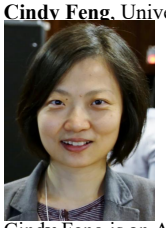
Bethany White is an Associate Professor, Teaching Stream, in the Department of Statistical Sciences at the University of Toronto. Her research interests involve the impact of simulation and technology-enhanced activities on student learning and attitudes toward statistics and, most recently, the preparation of students to appropriately use and interpret statistics in life sciences research. She currently sits on the SSC Board of Directors as an Ontario Regional Representative (2016-2018) and served on the SSC Statistical Education Section Executive Committee between 2013-2016 (President of the Section for 2014-2015). She is also currently on the editorial team of the American Statistical Association's Journal of Statistics Education and has made contributions on organizing committees of statistics and science education workshops and conferences in Canada and the US.

**Leilei Zeng**, University of Waterloo|

Leilei Zeng's interest lies in the development of statistical methodologies for life history and longitudinal studies, the design of clinical trials and epidemiological studies, incomplete observation and missing data problems, and model misspecification and evaluation. Much of this work has been motivated by direct applications to important practical problems in medical and public health research. Her current main research applications are in modelling progression and comorbidity in chronic diseases and associated risk factors. Dr. Zeng has been involved with the Statistical Society of Canada (SSC) during her career. She served on the SSC Committee on Women in Statistics (COWIS), she was the SSC COWIS representative at the American Statistical Association and at the Caucus for Women in Statistics. Dr. Zeng is a member of the Board of Directors of SSC as the Ontario Representative since 2017.

**MANITOBA - SASKATCHEWAN - NORTHWEST TERRITORIES - NUNAVUT**
(One to be Elected)

**Cindy Feng**, University of Saskatchewan



Cindy Feng is an Associate Professor in the School of Public Health at the University of Saskatchewan. She received both her MSc and PhD from the Department of Statistics and Actuarial Science at the Simon Fraser University. Her current research interests lie in statistical methods for modeling correlated non-normal data, model diagnosis tools for non-normal regression models and statistical methods for health services research. Cindy is current a member of SSC Committee on Women in Statistics and a steering committee member for Saskatchewan CANSSI Health Science Collaborating Centre.

**Yang Zhao**, University of Regina

Yang Zhao is an Associate Professor in the Department of Mathematics and Statistics at the University of Regina, where she joined as an Assistant Professor in 2005. She completed MSc degree in Statistics from Victoria University in 2000 and PhD degree in Statistics from the University of Waterloo in 2005. Her research focuses mainly on inference for regression models with missing data. She has served on the organizing committee of the annual meeting of the Prairie Network of Research in the Mathematical Science (PNRMS) in 2011 and Young Investigators Committee during 2010 – 2013, has organized invited paper sessions at ICSA-Canada Chapter 2015 Symposium. Yang is currently serving CANSSI Health Sciences Committee at Saskatchewan Health Science Collaborating Centre.

**ALBERTA - BRITISH COLUMBIA - YUKON**
(One to be Elected)

**Jinko Graham**, Simon Fraser University

Jinko Graham is a Professor of Statistics at Simon Fraser University. She obtained an MSc in Statistics from University of British Columbia and a PhD in Biostatistics from the University of Washington. After a postdoctoral fellowship at the US National Institute of Statistical Sciences and North Carolina State University, she joined the Department of Statistics and Actuarial Science at Simon Fraser University and has been there ever since. Her research focuses on statistical genomics and is funded by NSERC. She is particularly interested in how variation in the DNA sequences of individuals reflects their underlying genealogical relationships. These relationships can tell us about our ancestry and origins. They can also tell us about individual predisposition to inherited traits, and so are of use in mapping the genomic location of DNA variants that contribute to disease traits. She has enjoyed the SSC Meetings since her days as a Master's student and looks forward to connecting with colleagues and supporting the work of the Society.

**Wanhua Su**, MacEwan University

Wanhua Su is an Associate Professor in the Department of Mathematics and Statistics at MacEwan University located in downtown Edmonton, Alberta. Her research interests involve data mining, biostatistics, and Bayesian statistics. Wanhua received her BSc in Applied Math from East China Normal University, MSc in Statistics from National University of Singapore, and PhD in Statistics from the University of Waterloo. Wanhua has been actively serving on a variety of committees at the department, institution, and community levels. She is currently a member of the SSC Committee on Women in Statistics.

## SECTION EXECUTIVES

**ACTUARIAL SCIENCE SECTION EXECUTIVE**
(Three-year terms; 2019-22)

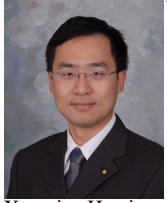
**PRESIDENT-ELECT**
(President, 2020-21; Past President, 2021-22)

**Hélène Cossette**, Université Laval

Hélène Cossette began her academic career in 1996 and is now Full Professor at the School of Actuarial Science at Laval University. Her teaching and research interests are probability theory, dependence modeling and risk theory. She is co-director of the research lab ACT&RISK and member of the research center CRDM on big data. She is presently director of the CRM actuarial and financial mathematics research laboratory (Quantact). She has published some fifty scientific papers. She has supervised nine PhD students and more than fifteen master's students. She is heavily implicated in the graduate studies at the Actuarial School where she has now been director for eight years.

**SECRETARY**

**Xuemiao (Samuel) Hao**, University of Manitoba



Xuemiao Hao is an Associate Professor at the Warren Centre for Actuarial Studies and Research, I.H. Asper School of Business, University of Manitoba. He received his PhD degree in statistics from University of Iowa in 2009. Before that he obtained his Master's degree in statistics from University of Toronto in 2003. His current research is focused on extreme event modeling, credit risk management, and health insurance.

**BIOSTATISTICS SECTION EXECUTIVE**
(Three-year terms; 2019-22)

**PRESIDENT-ELECT**
(President, 2020-21; Past President, 2021-22]

**Aurélie Labbe**, HEC Montréal

Aurélie Labbe has been an Associate Professor in the Department of Decision Sciences at HEC Montréal since September 2016. After completing her PhD in Statistics at the University of Waterloo in 2005, she was Assistant Professor in the Department of Mathematics and Statistics of Laval University from 2005 to 2009, and Assistant Professor and later Associate Professor in the Department of Epidemiology, Biostatistics and Occupational Health at McGill University until 2016. Her research focuses mainly on high-dimensional data with complex correlation structure, with applications in the areas of statistical genetics and intelligent transport (road safety). Aurélie was involved in the SSC as a Quebec Regional Representative on the board of directors, member of the Student Travel Grants, the CJS Award Committee and the Bilingualism Committee.

**SECRETARY**

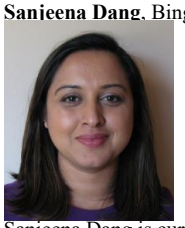
**Geneviève Lefebvre**, Université du Québec à Montréal

Geneviève Lefebvre is an Associate Professor in the Department of Mathematics at the Université du Québec à Montréal, which she joined in 2008. Geneviève received her Ph.D in statistics from McGill University in 2007 and completed her studies with a postdoctoral training at the University of British Columbia. Since the beginning of her career, Geneviève has been involved with the SSC as a member of the New Investigators Committee, as regional representative for Quebec and as chair of the bilingualism committee. Her main research interests are in biostatistics and computational statistics, with an emphasis on applied methodology.

**BUSINESS AND INDUSTRIAL STATISTICS SECTION EXECUTIVE**
(Three-year terms; 2019-22)

**PRESIDENT-ELECT**
(President, 2020-21; Past President, 2021-22)

**Sanjeena Dang**, Binghamton University



Sanjeena Dang is currently an Assistant Professor in the Department of Mathematical Sciences at Binghamton University (State University of New York). She obtained her PhD in Statistics from University of Guelph in 2012. Her research focuses on clustering and classification of high dimensional data with applications in bioinformatics. She has been involved in the Statistical Society of Canada as a secretary for the Business and Industrial Statistics Section since 2016.

**SECRETARY**

**Kathryn Mills**, Canada Revenue Agency

Kathryn Mills is currently the Manager of Advanced Analytics in the Innovation Lab at the Canada Revenue Agency. There she leads a team of Data Scientists in collaborating on innovative data projects in support of service and compliance. Prior to joining the CRA in 2014, Kathryn led an advanced analytics unit at the Canada Border Services Agency (2010-2014), was a cryptologic scientist with the Communications Security Establishment (2004-2010), and worked as a hardware engineer and developer at Nortel and Catena Networks. She holds a B.Eng. in Electrical Engineering and a M.Sc. specializing in Applied Statistics, both from Carleton University. Her experience in industry and government has afforded her the opportunity to directly apply her academic knowledge and contribute to evidence-based decision-making. She has provided briefings to Assistant Deputy Ministers and Deputy Ministers on the use of analytics, data mining, and information visualization in their respective departments. Kathryn is also the Past President for the Statistical Society of Ottawa.

**PROBABILITY SECTION EXECUTIVE**
(Three-year terms; 2019-22)

**PRESIDENT-ELECT**
(President, 2020-21; Past President, 2021-22)

**Mary Thompson**, University of Waterloo

Mary Thompson is Distinguished Professor Emerita at the University of Waterloo, where she has been a member of the Department of Statistics and Actuarial Science since 1969. She holds a BSc degree from the University of Toronto and a PhD from the University of Illinois at Urbana-Champaign. Her research areas of interest include inference for stochastic processes, statistical estimation theory, biostatistics and survey methods. She was Treasurer of the SSC in 1985-1987, President of the Survey Methods Section in 1993-1994, and President of the SSC in 2003-2004. She currently chairs the SSC Fundraising Committee.

**SECRETARY**

**Sévérien Nkurunziza**, University of Windsor

Sévérien Nkurunziza is a Professor in the Department of Mathematics and Statistics at the University of Windsor. He joined the department in July 2005 as an Assistant Professor, after completing his PhD in statistics at the Université du Québec à Montréal. His research topics include the stochastic modeling of ecological systems, models with breakpoints, shrinkage-type estimators and asymptotic theory. In particular, he focuses on statistical methods that may have applications in survival analysis, in financial mathematics as well as in brain imaging. He has been funded by NSERC since 2006. Finally, since July 1, 2016, he serves on the Executive Committee of the Probability Section as Secretary.

**STATISTICAL EDUCATION SECTION EXECUTIVE**
(Three-year terms; 2019-22)

**PRESIDENT-ELECT**
(President, 2020-21; Past President, 2021-22)

**Xu (Sunny) Wang**, Wilfrid Laurier University

Xu (Sunny) Wang is an associate professor in the Department of Mathematics at Wilfrid Laurier University. Prior to joining Laurier, Sunny taught Statistics at St. Francis Xavier University (Nova Scotia, Canada), where she received the University Outstanding Teaching Award in 2016. Sunny received her Ph.D. in Statistics from the University of Waterloo (Ontario, Canada). Sunny's current research focuses on automating statistical learning and data mining tools for complex data classification problems including compound structures and high dimensional time series from medical and financial fields. Sunny has been very active in the SSC since the beginning of her profession. She was the local representative at St. Francis Xavier University, and has served on many SSC committees including Education Committee, Finance Committee, Case Study Award Committee, and the treasure for Section of Statistical Education. Sunny devotes herself to the Statistical Education, and has been nominated as the President-elect for the Section of Education for 2019-2020. With passion and enthusiasm, Sunny would like to continue serving the SSC.

**SECRETARY**

**Karen Buro**, MacEwan University

Karen Buro is an Associate Professor in the Department of Mathematics and Statistics at MacEwan University and has been the chair of the department since 2013. She holds a PhD in Mathematics from Aachen University in Germany. Karen is passionate about statistics education, she has been instrumental in the introduction of the Applied Statistics degree at MacEwan and is a member of the Canadian Curriculum Working Group. Her research interests are in the mathematics of electoral systems and she is very active in statistical consultation with clients from a wide range of disciplines.

**SURVEY METHODS SECTION EXECUTIVE**

**PRESIDENT-ELECT**
(President, 2020-21; Past President, 2021-22)

**Zilin Wang**, Wilfrid Laurier University

Zilin Wang is currently an Associate Professor in the Department of Mathematics at Wilfrid Laurier University. She received her PhD degree in Statistics from the University of Western Ontario in 2004. She served as the Treasurer (2004-2013) and President (2010-2013) of ASA Chapter of the Southern Ontario Regional Association. Her research areas include survey sampling, environmental statistics, resampling techniques, and statistical modelling in finance.

**SECRETARY**
(Two-year term; 2019)

**Golshid Chatrchi**, Carleton University

Golshid Chatrchi is a mathematical statistician at Statistics Canada. She holds a MSc degree in Statistics from Carleton University. She is currently working in the Social Statistics Methods Division as a senior methodologist. Her research interests include small area estimation and sampling. She has served the Statistical Society of Canada as the Secretary of the Survey Methods Section (SMS) since 2017.

## ACCREDITATION PROGRAM COMMITTEES

(Three-year terms; 2019-22)

### ACCREDITATION COMMITTEE

(Four to be elected)

**Alomgir Hossain**. University of Ottawa Heart Institute

Alomgir Hossain, P.Stat. received his MSc in Mathematics from Concordia University and MMATH (Statistics) and PhD in Biostatistics from University of Saskatchewan. Alomgir is currently working as a Scientist at the University of Ottawa Heart Institute and, Assistant Professor at the School of Epidemiology, Public Health and Preventive Medicine, University of Ottawa. Alomgir is also appointed as a Research Fellow at Institute for Clinical Evaluation Sciences (ICES). Alomgir began to work as a consulting Biostatistician at the Saskatchewan Health Quality Council before move to the University of Ottawa. Alomgir's areas of research interest include population health using large administrative databases, RCTs, Complex Survey Databases, Network Meta-analysis (NMA) using aggregated data (AD) and individual patient data (IPD) based on systematic reviews.

**John Koval**. Western University

John Koval is Professor Emeritus (Biostatistics) in the Department of Epidemiology and Biostatistics at the University of Western Ontario. His research on correlated logistic regression models was funded by NSERC, and he was principal investigator in a 10-year cohort study of psychosocial factors in smoking in adolescents and young adults, funded by the National Cancer Institute of Canada. He has been an SSC member since the early 80's and an accredited member since early in the accreditation program. He was Treasurer of the Biostatistics section from 2000 to 2007, Treasurer of the SSC from 2009 to 2014. and Ontario representative from 2014 to 2016.

**Peter Macdonald**. McMaster University

Peter Macdonald studied at the University of Toronto and the University of Oxford. He joined McMaster University in 1971, retiring as Professor Emeritus of Mathematics and Statistics in 2010. He has held numerous offices in the SSC, including Program Chair 1980, Treasurer 1981-1984, Liaison Managing Editor 1988-1991, President-Elect 1989-1990, President 1990-1991, Past President 1991-1992, Local Arrangements Chair 2002, Web Editor 2000-2008, Electronic Services Manager 2007-2008, Accreditation Appeals Committee 2012-2014, Electronic Communications Manager 2013-2017, and was awarded the SSC Service Award in 1989.

**Elmabrok Masaoud**. Canadian Food Inspection Agency

Elmabrok Masaoud is a Senior Statistician at Canadian Food Inspection Agency. He has BSc degrees in statistics, an MSc in Statistics from the Budapest University of Technology and Economics, and a PhD in Biostatistics from the Atlantic Veterinary College (AVC), University of Prince Edward Island. In addition, he is an adjunct professor of Biostatistics, School of Epidemiology and Public Health, University of Ottawa and member of Faculty of Graduate and Postgraduate Studies, University of Ottawa. Elmabrok previously served as the President of Graduate Student Association at University of Prince Edward Island (2005-2006) and the Prince Edward Island's representative for the Canadian Federation of Students (2006-2007). Elmabrok consults with data users, processors, and evaluators on study design, sampling, statistical data analyses and reporting. He reviews and appraises the adequacy and validity of applied probability models, sampling and laboratory protocols and claim submissions. His research focuses mainly on the statistical models for observational data, typically extracted from registers of routinely recordings in health including human, animal and food data.

**Jenna Sykes**, St. Michael's Hospital

Jenna Sykes, P.Stat, is a Research Biostatistician in Cystic Fibrosis (CF) research at St. Michael's Hospital in Toronto. Her current research focus is on international comparisons of survival in CF. Prior to joining the St. Michael's team in 2014, she spent four years working as a Biostatistician in cancer research at Princess Margaret Hospital. She is a co-author of more than 60 publications to date. Jenna received her M. Math in Statistics-Biostatistics and her B. Math from the University of Waterloo. She is keen to become more engaged with the greater SSC community and would love to be involved in the accreditation process.

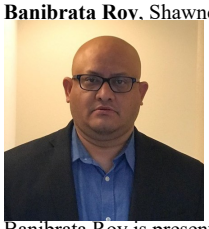
### ACCREDITATION APPEALS COMMITTEE

(Two to be elected)

**Cheryl Gibbons**, Canadian Food Inspection Agency

Cheryl is the Senior Statistician at the Canadian Food Inspection Agency. She was appointed to build and lead a team of statisticians, the Trend Analysis Unit, to monitor the food safety of Ready-to-Eat meat. Within five months of her tenure, the first two statisticians were hired, and within the first nine months $262K in funding was approved to build a statistically based Information-Management-Information-Technology food-safety monitoring system. Cheryl has worked on some of the most exciting projects within the statistical landscape, including proteomics (development of Rapid Tests to identify Bovine Spongiform Encephalopathy), patents (animal vaccines and genetically modified organisms (GMOs) in plant health), and trade agreements (World Trade Organization, Sanitary and Phytosanitary Agreement and the Canada-US guidelines on Potato Cyst Nematode). Her work includes award-winning research with multi-disciplinary teams and preparing statistical interns for careers in Statistics and Medicine. She is fluent in English, French, SAS and S-plus.

**Banibrata Roy**, Shawnee Community College



Banibrata Roy is presently the Director of Quality Improvement and Accreditation at the Northern Ontario School of Medicine, and Assistant Professor at the Department of Community Health Sciences, University of Manitoba and has been working in the field of higher education for the last 28 years as Faculty, Researcher, Consultant and Administrator in three countries – India, Canada and USA. Prior to that, he worked as Director of Institutional Research, Strategic Planning and Assessment at two institutions in USA, Shawnee Community College in Illinois and Community College of Aurora in Denver, Colorado, other than several teaching assignments in Statistics. His other experiences include teaching as Biostatistics Faculty and Senior Assessment Specialist at the School of Pharmacy, Fairleigh Dickinson University, New Jersey; Assistant Professor and Academic Advisor, Undergraduate Medical Education at the University of Manitoba; Senior Statistical Consultant at Manitoba Bureau of Statistics; Statistics/Epidemiology Faculty at Red River College and Humber College and Senior Research Psychometrician at MultiHealth Systems. Prior to that, he worked as Professor in Statistics for 23 years at the M.S. University of Baroda, India.

Dr. Roy is a hardcore statistician having a BS, MS, MPhil, PhD and P.Stat. degree in Statistics. He has a wide range of publications in Industrial Statistics, Biostatistics, Sampling, Program Evaluation, and Dementia. He has a strong expertise in Educational Measurement and Database Administration, designing data-driven program evaluation skills in psychometric analysis, research design, reliability and validity.

On a more personal note, Dr. Roy has interest in philately, playing chess, soccer, swimming and a huge passion for teaching complex principles of Statistics in a lucid, entertaining way, integrating software induced pedagogy.

**Jill Vandermeerschen**, Université du Québec à Montréal

Jill Vandermeerschen, P.Stat, holds a BSc in Actuarial Science from Concordia University and an MSc in Statistics from Université de Montréal. She has worked for just over ten years as a university research consultant. She started her career as a statistician for the Research Chair in Addiction at the University of Sherbrooke. Since 2013, she has been senior consultant and coordinator of the data analysis consultancy service at University of Quebec in Montreal (UQAM). Jill is currently a member of the Accreditation Services Committee.

## THE SSC ELECTION COMMITTEE 2018-19

Hugh Chipman, Chair and SSC Past-President, Acadia University
Sylvia Esterby, UBC Okanagan
David Haziza, Université de Montréal
Cyntha Struthers, University of Waterloo
Kevin Keen, University of Northern British Columbia
Yi Lu, Simon Fraser University
Joel Dubin, University of Waterloo
Shirley Mills, Carleton University
Richard Lockhart, Simon Fraser University
Bruce Dunham, University of British Columbia
Mahmoud Torabi, University of Manitoba

## Canadian Labour Force Survey

*__Note:__ In 2018 Statistics Canada celebrated 100 years of its establishment. Over the years StatCan has been anointed the best statistical agency in the world because of its quality statistical information and its excellence in statistical methodology. The authors would like to thank __Dr. Ivan P. Fellegi, Chief Statistician of Canada Emeritus__ for his inputs on the early history of the Canadian Labour Force Survey. They also thank the many SSC colleagues who have contributed to the success of LFS over the years. Please note a version of this article was published in the Statistics Canada internal publication @STATCAN.*

The Canadian Labour Force Survey (LFS) is a Statistics Canada flagship, mission-essential survey first begun in November 1945. For several decades it brought excellence and leadership to the household surveys program in Canada. The LFS provides timely estimates of labour market conditions in Canada, providing the same quality and relevance today as it did more than 70 years ago.

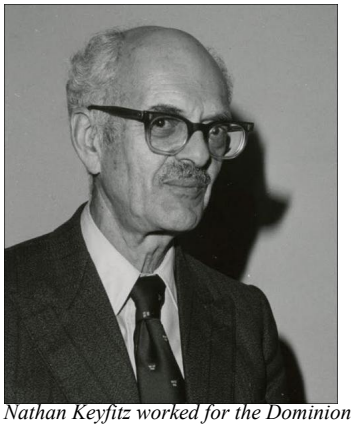
The LFS began as a quarterly survey and was designed to meet the urgent need for reliable estimates of labour market conditions in the post-WWII transition from a wartime to peacetime economy. To meet timely data demands, it became a monthly survey in 1952, and in 1960 it was designated the official measure of Canada's unemployment and employment condition. The LFS laid the foundation of probability-based surveys for StatCan and inspired the long history of sound statistical methodology and principles in all of the agency's surveys.

The labour market information provided by the LFS is among the most timely and important measures of the Canadian economy's overall performance. The monthly official estimates published today include the unemployment rates and employment totals at national, provincial and sub-provincial levels. The LFS plays a central role in the national statistical system: it is the largest monthly household survey conducted by StatCan and its survey frame, sample and processing systems support a wide range of other household surveys.

**Excellence in survey methodology**

In its 70-plus year history, major innovations have been introduced to the LFS in the areas of survey methodology, questionnaire content, collection methods, processing techniques and computer systems, to name a few. Methodologists in the LFS pursue advancements in every step of the survey design process, particularly in stratification, sample selection, collection and processing, editing and imputation, weighting estimation, and variance calculation. Over the years many innovations have been successfully implemented, in some cases becoming internationally accepted practices.

When the LFS was launched it constituted a major change in the production of official statistics in Canada. Led by **Nathan Keyfitz**, it was the first complete and thorough implementation of survey sampling. Regional offices were also established in order to maintain a local staff to conduct the survey. As a result, production was much faster and estimates were much timelier. Since that time, through redesigns, the LFS has remained a vehicle of choice for the implementation of solid and innovative methods.

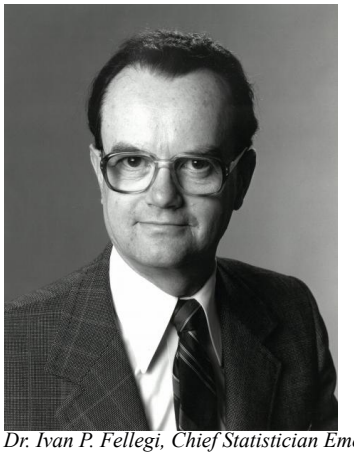


*Nathan Keyfitz worked for the Dominion Bureau of Statistics from 1936 to 1959*

**Major sample redesigns**

Major methodological enhancements to the LFS have been introduced via sample redesigns, which occur following each decennial census. Census information is used to create a new survey design, and a new sample is introduced three-four years later, after extensive development and consultations with stakeholders.

The main objective of the 1955 LFS sample redesign was to extend the survey's coverage to more remote and rural areas of the provinces. In the 1964 redesign, methodologists led by **Dr. Ivan Fellegi** worked on extensive stratification and a more uniform distribution of the sample. These efforts improved the reliability of the estimates significantly and enabled the release of separate estimates for all provinces for the first time.


*Dr. Ivan P. Fellegi, Chief Statistician Emeritus of Canada*

The 1975 LFS redesign, led by **Richard Platek**, implemented a substantial increase in sample size allocation — from about 35,000 households in the 1960s and 70s to 55,000 households. This increase enabled the official release of more detailed estimates at national and provincial levels, and expanded the number of reliable sub-provincial estimates.

**M.P. Singh** led the 1984 redesign, which endeavoured to be more cost effective. Innovations to the design included the elimination of one of the three sampling stages in the rural areas, more statistically rigorous procedures for stratification and delineation of sample units, the introduction of the integrated weighting method and the use of external population benchmarks in producing more reliable estimates for sub-provincial levels, and increased use of the telephone for conducting follow-up interviews. With this redesign came a major addition to the administration of the Employment Insurance program's sample size.

In 1995 M.P. Singh and **Jack Gambino** led another LFS redesign, which saw the introduction of income strata for the first time and enabled special surveys to better target their samples. The new design included less clustering and more sampling in urban areas. The elimination of the place names design in remote areas, and the elimination of the special area design in general, further simplified the LFS. A new method of compensating for household non-response was introduced, taking into account patterns of non-response that varied according to the number of months a household had been part of the survey.

In the 2005 redesign, methodologists led by Jack Gambino and **Edward Chen** (with early ground work conducted by **Eric Rancourt**), a more cost-effective design was introduced. Innovations included using the Address Register to reduce field listings, contacting first-month respondents via telephone, reducing samples in expensive collection areas, and introducing computer mapping for all areas of Canada. Additional provincially funded samples in British Columbia and Alberta—and later Manitoba — were introduced to meet special requirements for these provinces.

The current LFS design, launched in January 2015, was further simplified. We introduced a one-stage design in Prince Edward Island and eliminated three-stage designs in every other area. Additional steps were taken to identify remote and hard-to-access areas that could be excluded from the sample frame with minimal impact on estimates. Field listings are now coordinated with the census listing program to further reduce cost. Furthermore, the listing applications used by interviewers for LFS and the census were unified into one application.

The adoption of a single sample selection method in all areas led to a major simplification in sampling methodology, which has allowed for the Division responsible for geography to directly maintain cluster boundaries on an on-going basis as street networks are updated. A web-based application was made available to regional offices in order to reduce the need for paper maps and a method was introduced to reserve and select independent clusters for surveys that use the LFS frame.

**Major developments**

Besides the regular introduction of new sample designs, in the last 30 years there have been significant improvements to the LFS based on research and development. Some examples include the introduction of integrated weighting and Jackknife variance estimation in the late 1980s, composite estimation in the late 1990s and the use of the "bootstrap method" for the variance calculation starting in January 2015.

The Telephone First Contact program reduced the number of personal visits to households and the web-based response option, using an electronic questionnaire, was implemented after extensive studies. The use of the new Household Survey Frame services and products from the Address Register, with its standardized listing of addresses, has improved the efficiency of costly initial listing while the Small Area Estimation program has provided users with reliable small area estimates.

In the early 1990s, the LFS' coverage was extended to the northern territories in consultation with territorial representatives. The LFS was in use when Nunavut was created and it provided territorial statistics soon after its birth. The territorial design update in 2011 led to better stratification and reduction of under-coverage in the northern territories.

The seasonal adjustment technique was introduced to the data series in the early 1970s in order to meet users' changing requirements. Indeed, computer systems have evolved over time to keep pace with changing technology; from manual methods of sampling to processing in mainframe, and later UNIX applications, there has been much evolution of the different systems needed to process and publish the LFS results efficiently.

*The authors, Edward J. Chen and Eric Rancourt. Both were chiefs of methodology for the Labour Force Survey Methods at different points in time. Eric is now the Director General of Methodology Branch at Statistics Canada and Edward is a chief in Statistical Integration Methods Division.*

As such, interviewers have moved from manual methods to the use of computer applications such as Computer Assisted Personal Interviews and Computer Assisted Telephone Interviews with several major iterations of hardware and software enhancements. In particular, the introduction of Computer Assisted Interviews beginning in November 1993 was a key innovation in data collection.

**Excellence in all other areas**

Major innovations and enhancements to the LFS, led by subject matter experts, were introduced in many other areas over time, including two major questionnaire redesigns in 1976 and 1997, which improved data quality and ensured that relevant labour market information is collected and published. The IT systems have been continually redesigned to use the corporate systems and the dissemination of LFS information has improved dramatically over the years to meet users' demands.

The historical series of statistics from the LFS is recalculated every five years (after each census) in a process called "rebasing," in order to better align outputs with the most recent geopolitical boundaries. Industry and occupational classifications have evolved over time as well, and the LFS follows suit to meet users' ever-changing requests.

**Special and supplemental surveys**

The LFS infrastructure has provided a convenient and cost-effective starting point for a number of other household surveys over the years. Large current surveys using the LFS frame include the Canadian Community Health Survey and the Survey on Household Spending. Combined, these surveys use more of the frame sample every year than the LFS does. In addition, LFS infrastructure and interviews provide the opportunity for supplemental surveys or Fast Track Options/Disaster Catastrophe Evaluation so that information can be collected quickly based on household characteristics.

**A tradition of excellence**

The continued success of the LFS is the result of a large number of contributors, starting with the analysts, methodologists, IT specialists, geographers and data collection specialists working at StatCan. Without a doubt, the long history of the LFS also owes its success to the regional offices, interviewers, data users, researchers in universities and the Canadian public for their input and participation.

Over the years, Statistics Canada has been anointed the best statistical agency in the world and the LFS has remained innovative throughout the decades. It has a fine tradition of pursuing excellence, innovation and cost efficiency while meeting changing demands and data requirements. Today, the LFS continues to uphold its strong reputation and it continues to evolve with Statistics Canada's modernization efforts toward more client-centric services, data integration through modern methods and approaches, and increased collaboration to better inform Canadians.

## R à Québec 2019

Registration is now open for R à Québec 2019, presented by Intact. Enjoy early-bird rates until March 10, 2019. Various rates are available, with enough flexibility to let you plan for this event according to your schedule and budget.

The rich and varied programme, with 19 training workshops offered by subject matter experts will appeal to all R users, beginners, intermediate or advanced, regardless of their discipline. Choose between two-day, full-day or half-day workshops. Introduction to R, modelling, geomatics, parallel computing, artificial intelligence, website creation, shiny applications, advances statistics, and much more: there is something for every taste!

We are also proud to offer master classes presented by two top personalities of the international R community. These classes will be held on the Thursday afternoon following the conference. Unlike the other activities of R à Québec 2019 (with the exception of the opening address), these master classes, which are organised as hands-on workshops, will be held in English. Choose between a class by **Benjamin M. Bolker,** Beyond linear-type models: general purpose maximum likelihood estimation in R, or one by **Douglas Bates,** Mixed-effects models in R using the lme4 package. Registration to these master classes is limited to 30 participants each. Don't delay!

There is still time to answer the conference call by February 17. The conference programme will be finalised after that date.

R à Québec 2019 is an interdisciplinary symposium that brings together researchers, students, practitioners and professionals from academia, government and industry. Following the example of the international useR conferences, this conference unique to Quebec, specifically dedicated to the use of R in research and professional settings, facilitates a transfer of expertise between disciplines, the advancement of practices and, for some, the leap to the R environment. It offers the perfect setting to network with more than 300 Francophone participants from various disciplines. Tuesday's cocktail reception is a great opportunity to meet the other participants in a relaxed atmosphere.

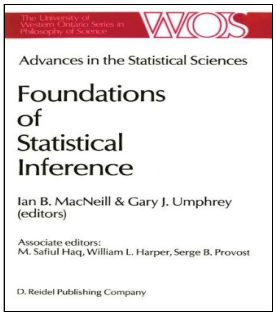
R à Québec 2019 would like to thank its many partners: Intact, the Centre de recherches mathématiques (CRM) Statistics Laboratory, RStudio, the Canadian Statistical Sciences Institute (CANSSI), Co-operators, the Université Laval Actuarial Chair, Sentinelle Nord, the Université Laval Carmand-Normand and Jean-Turmel trading rooms, the Statistical Society of Canada, Desjardins, Calcul Québec, the Université Laval Faculty of Forestry, Geography and Geomatics, the EDS Institute, the Centre for Forestry Research and the Association des statisticiennes et statisticiens du Québec (ASSQ)!

## Ian B. MacNeill, 1931-2019

It is with deep regret that I must inform the statistical community of Ian MacNeill's decease. He was surrounded by his family as he peacefully passed away on January 16th at London's Victoria Hospital.

Ian was a native of Regina. He received a Bachelor of Arts degree in Mathematics from the University of Saskatchewan in 1962. Having decided to pursue an academic career, he went on to obtain a Master's degree in Mathematics from Queen's University in 1964 and a doctorate in Statistics from Stanford University in 1969. He subsequently joined the Department of Mathematics at the University of Toronto as Assistant Professor and, in 1971, moved to The University of Western Ontario, where he was appointed Associate Professor in the Department of Applied Mathematics.

In 1977, he founded STATLAB, a statistical consulting service laboratory, which he directed until 1992. During that period, STATLAB carried out over 600 consulting projects. As well, he organized the Annual Meeting of the Statistical Society Canada that took place in London in 1978. That same year, he was promoted to the rank of Professor. As Director of the Statistics and Actuarial Science unit from 1977 to 1980 he successfully led efforts toward the establishment of the Department of Statistical and Actuarial Sciences, for which he acted as Chair from 1980 to 1992. Student enrolment in honours programs quintupled during that period. In the mid-eighties, Ian organized a Festschrift in honour of V. M. Joshi and co-edited with Gary Umphrey the resulting six-volume series titled *Advances in the Statistical Sciences* which was published in 1987 by Reidel of Holland as part of the University of Western Ontario Series in the Philosophy of Science.




**Dust jacket of the second of the six volumes comprising the series *Advances in the Statistical Sciences***

In 1985 he became President of the University's Faculty Association within which he had previously acted in various capacities. In the course of his chairmanship, Ian secured substantial funding for departmental computing equipment. In 1988 he established the Statistical and Actuarial Microcomputing Laboratory. In 1995 he was awarded the Distinguished Achievement Medal of the American Statistical Association Section on Statistics and the Environment. This award was presented to him in recognition of "outstanding contributions to the development of methods, issues, concepts and applications of environmental statistics". He was also cited for his research on monitoring and surveillance methodology, and recognized for his contributions as founding Vice-President of The International Environmetrics Society (TIES) and co-organizer of the International Conferences on Environmetrics.

**I.B. MacNeill, J.S. Hunter and A. El-Shaarawi at the first TIES meeting held in Cairo in 1989**

**Ian officially retired in 1997 and to highlight this occasion, Volume 10 of *Environmetrics* was published as a special issue. As Emeritus Professor he maintained his connections to the statistics community by pursuing his own research and providing guidance to former colleagues and students. Of note is the fact that his research program remained NSERC-funded until 2013.**

**As UWO hosted the 34th Annual Meeting of the Statistical Society of Canada and Ian was about to turn 75, it was only fitting that he then be awarded an Honorary Membership in the SSC. The accompanying citation read "*To Ian B. MacNeill for fundamental scholarly contributions, ranging from ground-breaking work on the change-point problem and the concept of residual processes for regression models to innovative methodologies for monitoring and forecasting chronic disease incidence, and for fostering the advancement of statistical sciences in his University, in Canada, and in the larger sphere*".**

**SSC Honorary Membership presented by then President David Binder on May 30th, 2006**
***Photograph by* Peter Macdonald**

**Ian had previously been awarded fellowships in the American Statistical Association (1985) and the Institute of Mathematical Statistics (1993). During his prolific career Ian held numerous consultantships and published more than 100 research articles and presented over 150 scholarly addresses at conferences and universities in twenty some countries. As well, he supervised or co-supervised eight PhD. students, one of whom, May Tang, became the co-winner of the Pierre Robillard Award for best PhD thesis defended at a Canadian university in 1990. Throughout the years, Ian has made substantial contributions to numerous areas of theoretical and applied Statistics, including Time Series analysis and forecasting, changepoint and change boundary problems, limit theory for iterated partial sum sequences, modeling and forecasting rates of morbidity and mortality of chronic diseases, and monitoring methods for early detection of outbreaks of infections.**

**A departmental celebration was organized in 2011 to mark his 80$^{th}$ birthday. An engraved desk clock and a detailed historical account of the first thirty years of the department were presented to him on this well-attended occasion. The last international conference Ian and I both attended was the 2013 Meeting of The International Environmetrics Society that was held in Anchorage. We then reminisced on previous TIES conferences, especially those that took place in Cairo and Tremezzo.**

**With Ian at the 2013 TIES Meeting, Anchorage, Alaska**

**On the occasion of his 85$^{th}$ birthday, Ian received a plaque from TIES with the following inscription: "*For a Lifetime of Outstanding Contributions to Research, Teaching, Service, and Development of Statistical Theory and its Applications*". As well, a special session was held in his honour at the 44$^{th}$ Annual Meeting of the SSC in St Catharines.**

**2016 Annual SSC Meeting (left to right): G. Umphrey, K. Jandhyala, S. Esterby, I. MacNeill, E. Naumova, S. Provost, A. Al**

**More recently I had the opportunity to partake in a lunch with the two chief mentors of my academic life: Ian B. MacNeill, whose wise counsel and steadfast support have meaningfully contributed to fashioning my early career, and my PhD thesis supervisor, Emeritus Professor A. M. Mathai, whose proficient guidance and valued advice have time and again enhanced my research agenda. May I add that Ian was delighted to see *his* department thrive as an independent unit within the School of Mathematical and Statistical Sciences at Western.**

**Lunch with Ian and Mathai at Windermere Manor**

**Many of us who have had the distinct privilege of knowing Ian will remember him as a cordial fellow, a dedicated educator, a distinguished researcher or a superb administrator. Our sincerest sympathies go out to Patricia, his wife of 66 years, as well as his numerous friends and a large circle of relatives comprising three generations of descendants.**

**Serge B. Provost**
**Western University**

## David V. Hinkley, 1944-2019

We are sorry to inform you that David Hinkley passed away peacefully in his sleep on 11 January 2019.

Students of the theory of statistics will know David through the book *Theoretical Statistics* co-authored with David Cox and published by Chapman and Hall in 1974. In laying out the key concepts of the theory of inference with a focus on statistical, rather than mathematical, thinking, it marked a new approach to the discipline focussed on the needs of science, rather than the formal mathematical structures, and was very influential in advancing the field of statistics through the 1970s, 1980s and beyond.

David also co-authored the book *Bootstrap Methods and their Application* with Anthony Davison, published at a time when new papers on the bootstrap were appearing at a rapid pace and giving a balanced account of the theory, its successes and failures, the range of applications and the critical importance of reliable software.

In 1978 he co-authored with Efron a particularly influential paper for the development of statistical theory: "Assessing the accuracy of the maximum likelihood estimator: Observed versus expected Fisher information", which preceded a rapid and exciting development of asymptotic theory of statistical inference, its relationship to conditioning and the development of improved approximations to likelihood **i**nference. Some of this early work was summarized in a paper in *The Canadian Journal of Statistics* in 1980 simply called "*Likelihood*"; this paper was based on an invited talk given to the Statistical Society of Canada and had a large impact on research in likelihood theory and methods.

David was a PhD student at Imperial College, London, and a professor of statistics at the University of Minnesota, the University of Texas at Austin, the University of Oxford and the University of California at Santa Barbara. In 1984 he was awarded the COPSS award, the statistical equivalent of the Fields Medal; his other honours include fellowships of the American Statistical Association, the Institute of Mathematical Statistics and the American Association for the Advancement of Science, and elected membership of the International Statistical Institute.

David leaves his children, Sara and Steve, four grandchildren and many friends and colleagues who appreciated his clarity of thought, his brilliant lectures, his lively and broad-ranging intellect, his wry humour and his passions for soccer and for photography.

Nancy Reid, Anthony Davison and Valerie Ventura