Awards: Faculty & Students

Congratulations to Don Fraser for his recent appointment by the Governor General as an Officer of the Order of Canada. This honour was bestowed upon Don for his contributions to the advancement of statistical sciences in Canada.

Don's impact within Canada can hardly be overstated. He has been a key figure in the professionalization of leaders in the statistical and actuarial sciences, has made deep and original contributions to the theory of statistics, and is one of the foremost intellectual leader of the discipline in Canada for the past 60 years.

Congratulations to Don Fraser

Alison Gibbs wins Dean’s Outstanding Teaching Award

For her clear leadership and achievements in teaching and the widespread enthusiasm for her performance as an instructor, Dr. Gibbs is a leading innovator of statistics education and curriculum renewal in our Department and more broadly the Faculty of Arts and Science at the University of Toronto, Alison is also actively involved in research in statistics education. Examples of this include an invited talk at the annual meeting of the Statistical Society of Canada, Developing graduate students’ supervisory skills. an invited lecture at the University of Chicago. What is Statistics, Some thoughts on Education, and the manuscript Lessons from Medicine for the training of Statistical Consultants. She chairs the Statistical Education Committee for the SSC and attends several conferences on statistics education on an annual basis. She was Guest Editor for the Canadian Journal of Statistics, is an Associate Editor for the SSC newsletter Liaison and was a member of the Canadian committee of the International Statistical Literacy Competition. We are fortunate to include Alison in our faculty ranks and we are particularly grateful to the Statistical Society of Canada for their support through the nomination process.

Fang Yao earns Discovery Accelerator Supplement

For his research program entitled Functional and High-dimensional Data Analysis: Regularization, Representation and Regression. Professor Yao was recruited to the University of Toronto from Colorado State University and we are fortunate to include him in our faculty ranks. He is one of our more prolific, and widely read, researchers. One of his published articles, which appeared in the Journal of the American Statistical Association, was rated as the most read paper for the year 2010 based on the number of times it was downloaded. While on research leave he spent one term at the Statistical and Applied Mathematical Sciences Institute as an esteemed Research Fellow. There he gave the opening address for a thematic program and subsequently led one of the working groups.

Congratulations to Dr. Yao, recipient of the Discovery Accelerator Supplement.

Ruslan Salakhutdinov earns Early Researcher Award

The ERA is the successor to the prestigious Savage Award in Statistics education. For his election to the Royal Society of Canada, as a Fellow for his contributions to probability theory, particularly for his work connecting risk processes with high-dimensional statistics, expertise in ruin theory, participation in research in statistics education. Ruslan is an internationally renowned expert in ruin theory, particularly for his work connecting risk processes with stochastic fluid flows.

New Program News

Tenure & Promotion

Congratulations to Andrei Badescu who has been granted tenure and was promoted to the rank of Associate Professor on July 1, 2011. Professor Badescu is a Professor in Actuarial Science. He is an internationally renowned expert in ruin theory, particularly for his work connecting risk processes with stochastic fluid flows.

Program News

The program in applied statistics is designed to train students to meet that demand. This design has two fundamental features. One involves the acquisition of advanced expertise in statistical reasoning, methods and computation. The other is a clearly defined, and prescribed, concentration in another discipline that permits the student to become conversant in that discipline to the extent that they can effectively collaborate. The successful student will acquire enhanced skills in communication, consultation and collaboration. The program is accessible to students in the sciences, social sciences, and other disciplines where specialized expertise in quantitative methods is an asset.

The applied statistics specialist program focuses on scientific problem solving and the collaborative nature of statistical practice. It aligns with new directions in statistical education that emphasize modern demands of the discipline through the application of statistical reasoning to important current problems in other areas.

As such it provides outstanding scientific training for work in collaborative research, and preparation for post-graduate work in statistics, biostatistics, or the concentration discipline where the student’s quantitative expertise will prepare them to make potentially unique contributions. Professional accreditation of statisticians is gaining worldwide prominence with accreditation programs in Canada, Australia, the United Kingdom, the United States, and some European countries. Graduates from this program will be prepared for a professional career in statistical practice and will be eligible to apply for the Associate Statistician designation from the Statistical Society of Canada. This program meets a need for developing statistical scientists who are prepared for both careers in industry and collaborative research. Additional current concentrations within the Faculty of Arts and Science, concentrations have been defined for Astronomy and Astrophysics, Cognitive Psychology, Ecology and Evolutionary Biology, Genes Genetics and Biotechnology, Global Health, Health Studies, Health and Disease, Human Biology, Social Psychology. Active collaborations to add further concentrations continue apace.

New Applied Statistics Specialist Program

Biostatistics, Global Health, Health Studies, and Disease, Human Biology, Social Psychology, and the concentration discipline where the student’s quantitative expertise will prepare them to make potentially unique contributions.

Sebastian Jammulal, Associate Professor, Department of Statistical Sciences

GRADUATE STUDIES REPORT

by Sebastian Jammulal, Associate Chair for Graduate Studies, Associate Professor, Dept. Statistics, U. Toronto

First off, I would like to thank Prof. Knight, my predecessor, for handling the reigns as Graduate Chair so expertly, for his guidance and for his assistance in bringing me up to speed—thanks Keith! Second, I would like to thank the staff, Andrea, Angela, Annette and Carolyn who have made my transition into the role go as smooth as possible. Finally, but not least, I would like to thank the Graduate Program Committee (Profs. Badescu, Czai, Feuerverger, Yao, and Zhou) who were invaluable in helping me make admission decisions and for providing support with other administrative issues.

There have been a number of exciting changes in the graduate program since I began in January 2012. Two of the most important ones are the creation of six new graduate courses (STA 459XK and the creation of the new PhD field in Mathematical Finance and Actuarial Science.)

The new courses are the first installment of what will eventually be fourteen 4500 level courses. There are concentrated six-week courses focusing on faculty’s areas of interest and research. They provide an introduction to the tools, methods, and theory that arise in our faculty’s research problems, but are accessible to non-experts. This year we have introduced Statistical Dependence: Good Models and Beyond; Functional Data Analysis and Related Topics; Monte Carlo Estimation; Advanced Monte Carlo Methods; Applications, An Introduction to Bootstrap Methods; and Applied Stochastic Control: High Frequency and Algorithmic Trading.

The new PhD field in Mathematical Finance and Actuarial Science builds on the strength of the research faculty in this area and reflects the historical fact that many of our graduates produced focused PhD thesis in this field, and more importantly (ii) to meet the demand from industry and incoming and prospective students for course work and supervision in this fast past, dynamic and continually growing field. The new field has specialized course and comprehensive examination requirements, but statistics and probability is still at its core. I look forward to seeing this new field grow into a successful and integral part of the graduate program.

There are plans in the works for a number of other graduate program modifications and additions—so stay tuned!
By: Professor Sam Broverman

New Faculty: Ruslan Salakhutdinov

Ruslan Salakhutdinov received his PhD in computer science from the University of Toronto in 2008. After spending two post-doctoral years at the Massachusetts Institute of Technology Artificial Intelligence Lab, he joined the University of Toronto as an Assistant Professor in the Department of Statistical Sciences.

Dr. Salakhutdinov's research field is Statistical Machine Learning.

Machine Learning, a broad subfield of Artificial Intelligence (AI), is the study of algorithms that allow computers to efficiently process and automatically discover structure from high-dimensional data using comparatively small training sets. Numerous applications include visual object recognition, language understanding, speech recognition, information retrieval, anomaly detection, and time series analysis.

In recent years, there has been a massive increase in computational power and the amount of data available from web, video cameras, high-throughput genomic sequencing, and various laboratory measurements. Building statistical models that can efficiently process and automatically discover meaningful representations from these data, should lead to many new scientific discoveries. New advances in machine learning will have a far-reaching impact on many research areas. For example, they can help neuroscientists analyze high-dimensional fMRI brain imaging data, or improve product recommendation systems at companies like Amazon.

Dr. Salakhutdinov’s main scientific interest is to understand the computational and statistical principles required for discovering structure in large amounts of data. His research focuses on developing large-scale hierarchical models that support inferences at multiple levels. This class of models provides a powerful tool for defining flexible probabilistic distributions over high-dimensional data, and allows us to build rich probabilistic models that can automatically discover semantic, regularities, structured hierarchies, or features from large volumes of high-dimensional data.

Many existing machine learning systems today are fundamentally limited in their ability to learn complex structural relations from high-dimensional input. Dr. Salakhutdinov's research aims to develop rich probabilistic models that are multi-functional, contain multiple levels of structure, and are capable of extracting higher-order knowledge from high-dimensional data, and successfully transfer acquired knowledge to learning new tasks. These models hold great promise for making a big impact on many research areas, including computational biology, neuroscience, medical diagnosis, computer vision, data mining, and robotics.

Dr. Salakhutdinov's published over twenty research papers, including a highly cited paper in Science. He is the recipient of the Early Researcher Award of the Government of Ontario, the NSERC Connaught New Researcher Award, and a Scholar of the Canadian Institute for Advanced Research.

Reports

There have been a couple of notable events that have occurred in the actuarial-science program in the past academic year. One is the introduction of a new actuarial science program, and the other is the Canadian Institute of Actuaries accreditation for the program.

By Professor Sam Broverman

Actuarial Science Program Update

In June 2010 NSERC requested that the mathematical and statistical sciences community prepare a long range plan (LRP) for a five-to-ten-year horizon. A steering committee for the LRP was established, chaired by Nancy Reid. The committee has been working since then on consulting with the mathematical and statistical sciences research communities, holding regular weekend meetings, and monthly telephone calls. In May 2012 a consultation draft of the plan was released, and the committee is now working on the final version, to be published in fall, 2012.

This is the first such research planning document prepared for the mathematical and statistical sciences jointly. The plan discusses issues around Discovery Grant funding and support for graduate students and postdoctoral fellows, the Canadian Mathematical Sciences Institutes, and the Banff International Research Station. It includes discussion of proposals for a Canadian Statistical Institute and for the PIMS network in support of research partnerships between the mathematical and statistical sciences and government and industry.

LONG RANGE PLANNING IN MATHEMATICS AND STATISTICAL SCIENCES REPORT

By: Professor Nancy Reid

Actuarial Science Industry Advisory Board

The U of T actuarial science program has an Industry Advisory Board for almost 20 years. The Board consists of the department chair, the faculty member in the actuarial program and anywhere from eight to ten practising actuaries from Toronto area companies. Most of the industry members are U of T alumni.

The Board meets on average once a year to discuss issues of importance to the program. These issues include course content, and more generally preparation for students to enter in the actuarial profession.

The meetings have provided a forum for lively discussion and some excellent suggestions regarding enhancements to the program. Several of the course offerings in the program have been developed and implemented as a result of a need that became apparent through meeting discussions.

This is true for at least three of the courses in the current actuarial program. The most recent of these courses, "Issues in Actuarial Practice" is discussed in another article in this newsletter.
Research Day 2012

“Students benefited greatly as they were able to exchange ideas and have direct interaction with top researchers in the field.”

WITH ADDITIONAL THANKS TO:
- Professor James Stafford, Chair, Department of Statistical Sciences
- Christine Bukleyhemer, Assistant to the Chair, Department of Statistical Sciences
- Edwin Lei, Secretary, Statistics Graduate Student Union, Department of Statistical Sciences
- Allison Conway, Manager of Scientific Programs, Fields Institute
- Claire Dupuis, General Scientific Program Coordinator, Fields Institute
- Andrea Womantas, Communications Officer, Fields Institute

Graduate Student Models for Dependent Data

Report by: Cody Severinksi, President, Statistics Graduate Student Union, Co-Chair, Research Day 2012 PhD Student, University of Toronto

BACKGROUND

Statistics Graduate Student Research Day is an annual event hosted by the Department of Statistical Sciences and the Statistics Graduate Student Union. The event was created to provide a venue for students and faculty to present their research to department members, members of the university community, research figures in Canada, and international figures. The day included keynote addresses, graduate student presentations, and a panel discussion.

Graduate Student Research Day 2012 was hosted by the Statistics Graduate Student Union and the Department of Statistical Sciences on April 19, 2012 by the Fields Institute. The theme was Models for Dependent Data. In parallel to the increase in data collection, technological progress in the last 20 years has allowed inference to be performed on increasingly complicated models. Assumptions that used to be common in statistics, such as independence, are becoming less common as technology allows for inference in models that better capture dependence in the data. Research Day 2012 explored some of these models, and how they are applied to several fields.

The invited keynote speakers were well recognized international speakers:

- Michael Jordan: Professor, Department of Electrical Engineering and Computer Sciences & Department of Statistics, University of California, Berkeley
- David Dunson: Professor, Department of Statistics, Duke University
- Marina Meila: Associate Professor, Department of Statistical Sciences, University of Washington

Presentations were made by students and postdoctoral fellows both internal and external to the department:

- Andriy Derkach: PhD Candidate, Department of Statistical Sciences, University of Toronto
- Nitish Srivastava: MSc Student, Department of Computer Science, University of Toronto
- Paul Nguyen: Postdoctoral Fellow, Dalla Lana School of Public Health, University of Toronto and Cancer Care Ontario

There were approximately 50 individuals attending. The cross-disciplinary nature of Statistics was reflected by a strong participation from the departments of Statistics, Computer Science, Psychology, and external to the department:

The panel focused on three main topics:

- Adapting the graduate curriculum to meet current demands in industry and academia,
- The apparent advantage of a PhD from a well-known / top school,
- The distinction between Machine Learning and Statistics.

This speech was followed by a student presentation by Andriy Derkach on Robust Association Tests for Rare Genetic Variants. He presented his current work on hybrid test statistics for rare variants that borrow strength from two classes of tests using Fisher’s method and the minimal p-value approach of combining p-values from the complementary linear and quadratic tests.

The morning continued with a second keynote address by Professor Yairaa Melia, who discussed statistical models for user preferences. While her talk involved estimation of a general parametric model, her presentation was well grounded in several real examples of modeling ranked preferences, including voting preferences and boosting of search engines.

We closed the morning with a second student presentation by Nitish Srivastava on a deep belief network for learning joint features over multimodal data. Easily interpretable experimental results were presented using the MNIST Flicker dataset, where the “joint features” were tagged images (image features and tags). It should be noted that this talk built on a similar talk he gave in the Machine Learning seminar series on March 15, allowing him to present new results following feedback in that seminar.

Afternoon - Bahen Centre, Room 1170

The afternoon began with a presentation by Paul Nguyen on mapping cancer risk in portions of Ontario. He presented the background of his statistical model and inference methods, placing it in the context of the Lambton and Middlesex counties in Ontario.

Professor David Dunson followed with his talk on Nonparametric Bayesian Learning from Big Data. He outlined the problems of the “large p, small n paradigm”, and reviewed current work on nonparametric Bayesian models that favour low-dimensional representations.

The event closed with a panel discussion involving the three keynote speakers and two professors from the University of Toronto Department of Statistical Sciences:

- Jeffrey Rosenthal: Professor, Department of Statistical Sciences, University of Toronto
- Alison Gibbs: Teaching-Stream Faculty, Department of Statistical Sciences, University of Toronto
- Avideh Sabeti: PhD Candidate, Department of Statistical Sciences
- Ramya Thinniyam: Co-chair, PhD Candidate, Department of Statistical Sciences
- Professor James Stafford: Chair, Department of Statistical Sciences
- Professor David Dunson: Department of Statistical Sciences

“I would like to note that Professor Gibbs was solicited for involvement as she is actively involved in both teaching and consulting, contrasting well with the research of the other panellists. In particular, her consulting work compensated for the lack of an industry panellist this year.”

CONCLUSION

Overall, the event was a huge success and an important academic and social event for all those who participated. It had heavy participation from neighboring disciplines (public health, computer science) and attracted visitors from neighboring universities (ex: University of Waterloo). In particular, students benefited greatly as they were able to exchange ideas and have direct interaction with top researchers in the field and establish connections for future collaborations. I personally encouraged the three keynote speakers to consider collaborative ventures with department members in a “Thank you” email sent after the event.

Statistics Graduate Student Research Day 2012 was supported and funded by:
- The Statistics Graduate Student Union
- The Department of Statistical Sciences at the University of Toronto
- The Fields Institute

“Students benefited greatly as they were able to exchange ideas and have direct interaction with top researchers in the field.”
Collaboration with my supervisor! Hanging out with other grad students? Be proactive — research is an entrepreneurial activity; and elsewhere.

Publication

Andrey Feuerverger


Don Fraser


The staff at the Department of Statistical Sciences have seen a few changes over the past year. We welcomed our new Office Assistant Annette Courtemanche in June 2012. Annette has come to us from OISE/UT and the Munk School of Global Affairs and is the tireless, problem solver extraordinnaire whose smiling face greets everyone who comes to the front office.

Christine Bulguryemez, Assistant to the Chair and Financial office assistant, went on leave in July 2011 and had a baby girl on August 7 named Lauren Bulguryemez. Congratulations to Christine and her family!

We welcomed Carolyn Brioux this summer to fill in for Christine and she had to hit the ground running for September and hasn’t stopped since! She has been tireless with her organizational abilities, which are always in demand. Carolyn has come to us from the Dean’s office at Arts and Science and OISE/UT.

Andrea Carter continues to shine in her role as Undergraduate and Graduate Administrator. Students, staff and faculty all rely on her vast knowledge of things well beyond her position and her willingness to jump in and help anyone who needs it.

Laurel Duquette continues to engage with all kinds of interesting projects as the staff member of the Statistical Consulting Service. Most notably this year were a project on the probability of Falling Glass panels and a project to quantify damages from a large warehouse fire.


Derrick A, Lawless J, Sun L (Online). Robust and powerful tests for rare variants using Fisher’s method to combine evidence of association from two or more complementary tests. Genetic Epidemiology.


The news release for Sun et al. Nature Genetics might be also relevant to the newsletter (http://www.sickkids.ca/About/SickKids/Newsroom/Press-News/2012/multiple-genes-linked-to-differences-in-chr10.html). (2012). This work highlights the benefit of integrating statistical methodology with other disciplines in scientific studies, says Dr. Lei Sun, an Associate Professor at the Dalla Lana School of Public Health and the Department of Statistics at U of T.

FANG YAO


The staff at the Department of Statistical Sciences have seen a few changes over the past year. We welcomed our new Office Assistant Annette Courtemanche in June 2012. Annette has come to us from OISE/UT and the Munk School of Global Affairs and is the tireless, problem solver extraordinnaire whose smiling face greets everyone who comes to the front office.

Christine Bulguryemez, Assistant to the Chair and Financial office assistant, went on leave in July 2011 and had a baby girl on August 7 named Lauren Bulguryemez. Congratulations to Christine and her family!

We welcomed Carolyn Brioux this summer to fill in for Christine and she had to hit the ground running for September and hasn’t stopped since! She has been tireless with her organizational abilities, which are always in demand. Carolyn has come to us from the Dean’s office at Arts and Science and OISE/UT.

Andrea Carter continues to shine in her role as Undergraduate and Graduate Administrator. Students, staff and faculty all rely on her vast knowledge of things well beyond her position and her willingness to jump in and help anyone who needs it.

Laurel Duquette continues to engage with all kinds of interesting projects as the staff member of the Statistical Consulting Service. Most notably this year were a project on the probability of Falling Glass panels and a project to quantify damages from a large warehouse fire.

Dermot Whelan continues to keep us all connected and bring new ideas to technological and server issues for staff and faculty. No one at Statistical Sciences could manage the work they do without him!
September 22, 2011
Speaker: Gareth Roberts, University of Warwick
Retrospective simulation
Host: JR

September 29, 2011
Speaker: Rob Deardon, University of Guelph
Efficient forms of individual-level models for large-scale spatial infectious disease systems
Host: RC

October 13, 2011
Speaker: Wenguang Sun, University of Southern California
Large-Scale Multiple Testing Under Dependence and Beyond
Host: ZZ

October 20, 2011
New TA Training

October 27, 2011
Speaker: Jiahua Chen, University of British Columbia
Properties of the Adjusted Empirical Likelihood
Host: NL

November 3, 2011
Speaker: Paul McNicholas, University of Guelph
Non-Gaussian model-based clustering and classification
Host: NR

November 10, 2011
Speaker: Zhibiao Zhao, Penn State University
Efficient Regressions via Optimally Combining Quantile Information
Host: ZZ

November 17, 2011
Speaker: Jan Hannig, UNC Chapel Hill
On Generalized Fiducial Inference
Host: NR

November 24, 2011
Speaker: Steven N. Evans, University of California, Berkeley
Statistical methods for analyzing species interactions
Host: RC

December 8, 2011
Speaker: Chris Wild, University of Auckland
Visualising randomisation and the bootstrap
Host: AG

January 19, 2012
Speaker: Xiao-Li Meng, University of California, Berkeley
Statistical Education and Educating Statisticians: Producing wine connoisseurs and master winemakers
Host: AGs

January 20, 2012
(2:30-4:00 p.m. SS1073)
Speaker: Xiao-Li Meng, University of California, Berkeley
The kick is in the residual (augmentation)?
Host: AGs

January 26, 2012
Speaker: Mia Zhu, University of Waterloo
Ensemble Learning: Classification and Variable Selection
Host: RC

February 9, 2012
Speaker: Edwin Lei, PhD candidate, year 2
Detection of structural breaks in multivariate time series
Host: JJ

February 16, 2012
Speaker: Alex Blei, Statistics
Location: 551069
Host: BVR

March 1, 2012
Speaker: Hana Jankova, York University
Asymptotics of the discrete log-concave maximum likelihood estimator
Host: RC

March 15, 2012
Speaker: Yongtao Guan, University of Miami
Optimal intensity estimation of the intensity function of an inhomogeneous spatial point process
Host: ZZ

March 22, 2012
Seminar will begin at 3:10pm sharp
Graduate Student Seminars

March 29, 2012
Speaker: Pengfei Li, University of Waterloo
Hypothesis testing in finite mixture models: from the likelihood ratio test to EM-Test
Host: HY

April 5, 2012
Speaker: Zhibiao Zhao, Penn State University
Host: ZZ

Department of Statistical Sciences Seminars 2011-12

The University of Toronto Statistics Club

The club aims to broaden students’ understanding and importance of statistics in our everyday lives, while, at the same time, helping statistics to grow in popularity at firstly at this institution. Statistics tends to be an assistant to a vast majority of fields of study, with most taking the courses because of other program requirements. We will provide students with opportunities to meet with fellow colleagues that share common interest, and to learn from each other and communicate different ideas. PhD Students will also be available at certain times to hold discussions with numerous students. Interactive seminars given by PHD students, professors, and career specialists on different topics, ranging from career possibilities to intriguing topics such as “Do cars with bigger engines really use more gas?” will be given in an attempt to build a community-like environment for affiliated members. The club will always strive to build and maintain a professional relationship with departments both inside and outside of the University.”

Executives for 2012-2013 Academic Year:

Dong Wang: President
Shiva Adita: VP Membership
JiYeon Seok: Marketing Director
Faizan Mohsin: VP Public Relations
Dennis Luo: Executive Assistant
Haseong Kim: Executive Assistant
Zeynep Baskurt: Executive Assistant
Katerina Byyakhanova: Executive Assistant
Nadia Muhe: Treasurer
Jinhyung Lee: Webmaster

Undergraduate Students

On October 20, 2010 the Department of Statistical Sciences at the University of Toronto marked World Statistics Day with the Public Lecture “Statistics in the Headlines” by Professor Jeffrey Rosenthal. World Statistics Days is a U.N. sponsored event to “acknowledge and celebrate the role of statistics in the social and economic development of our societies”. – Ban Ki-Moon, Secretary General.
On the Causes of Effects

STEPHEN E. FIENBERG PROFESSOR
DEPARTMENT OF STATISTICS, MACHINE LEARNING DEPARTMENT, HEINZ COLLEGE, AND CYLAB, CARNegie MELLON UNIVERSITY

JANUARY 21 @ 4:00pm

Uncertain Weather, Uncertain Climate

DOUG NYCHKA DIRECTOR
INSTITUTE FOR MATHEMATICS APPLIED TO GEOSCIENCES NATIONAL CENTER FOR ATMOSPHERIC RESEARCH UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH

MARCH 7 @ 12:00pm

Hot Enough for You? Uncertainty Quantification for Regional Climate Projections in North America

NOEL A. CRESSIE PROFESSOR
DEPARTMENT OF STATISTICS THE OHIO STATE UNIVERSITY

APRIL 1 @ 4:00pm

Statistics: the new sexy?

ROB TIBSHIRANI PROFESSOR
DEPARTMENTS OF STATISTICS AND HEALTH RESEARCH AND POLICY STANFORD UNIVERSITY

SEPTEMBER 12 @ TBA

Computationally Intensive Biology Problems

ROBERT GENTLEMAN SENIOR DIRECTOR
BIOINFORMATICS AND COMPUTATIONAL BIOLOGY GENENTECH, INC.

October 10 @ TBA

Smart Use of Smartphones and other Mobile Devices to Improve Health

SUSAN MURPHY PROFESSOR
H.E. ROBBINS PROFESSOR OF STATISTICS AND PROFESSOR OF PSYCHIATRY, RESEARCH PROFESSOR, INSTITUTE FOR SOCIAL RESEARCH, UNIVERSITY OF MICHIGAN

NOVEMBER 21 @ TBA

For more information about this lecture series visit our website www.utstat.utoronto.ca