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First Announcement!**SSO 2007 Symposium and Workshop****March 27-28, 2007**

Statistics Canada
Jean-Talon Building
Jean-Talon Conference Room
170 Tunney's Pasture Driveway
Ottawa

Workshop, March 27, 2007: Applied Bayesian Methods**Deadline** for workshop registration is March 21, 2007

Michael Escobar, University of Toronto, Department of Public Health Sciences and Department of Statistics will lead an all-day workshop in applied Bayesian methods. See description at the end of this announcement for details.

Symposium, March 28, 2007: Measuring the Nation's Well-being**Pre-registration for symposium is HIGHLY RECOMMENDED**

Symposium 2007 focuses on statistical problems in measuring Canada's well-being. A rapidly changing environment, with novel challenges to health and prosperity, makes it both more important and more difficult than formerly to provide planners with the information they need. Four speakers during the course of this all-day event will discuss aspects of this problem arising in the fields of public health, climate change and other areas.

At present, the list of confirmed speakers includes:

- **R. T. Burnett**, Safe Environments Directorate, Health Canada. **A spatial-temporal model for the effects of short-term exposure to urban ambient air pollution and health**
- **Konrad Gajewski**, Laboratory for Paleoclimatology and Climatology, Department of Geography and Ottawa-Carleton Institute of Biology and Ottawa-Carleton Geoscience Centre, University of Ottawa. **Climate change: A review of the science**
- **Lisa Lix**, Manitoba Centre for Health Policy and the Department of Community Health Sciences, University of Manitoba. **A comparison of classification models for identifying chronic diseases cases and non-cases in administrative claims data**
- **Michael C. Wolfson**, Analysis and Development Field, Statistics Canada. **GLT (Good Life Time) – An approach to measuring wellbeing**

Registration Fees (includes coffee breaks)**SSO members:**

Workshop only: \$100
Symposium only: \$100
Workshop and Symposium: \$180

Non-members: add \$12

Group rates available

Please send completed registration form to:

Lisa Corscadden
Statistics Canada
Business Survey Methods Division
R.H. Coats Building, 11th Floor
150 Tunney's Pasture Driveway
Ottawa, Ontario K1A 0T6

Phone: 613 951-0605

Fax: 613 951-1462

Email: Lisa.Corscadden@statcan.ca



Registration Form

Registration Fees – Please circle the dollar amount corresponding to your choice.
Registration fee includes coffee breaks

| Event | SSO Member | SSO Non-member |
|---|------------|----------------|
| Workshop Only March 27, 2007 8:30am - 4:00pm <i>Registration deadline for workshop is March 21, 2007</i> | \$100 | \$112 |
| Symposium Only March 28, 2007 8:00am - 4:00pm | \$100 | \$112 |
| Workshop and Symposium March 27-28 2007 <i>Registration deadline for workshop is March 21, 2007</i> | \$180 | \$192 |

Group rates available. Please inquire with event coordinator.

Events will take place at Statistics Canada, Jean-Talon Building, Jean-Talon Conference Room
170 Tunney's Pasture Driveway, Ottawa

Payment is by CASH, CHEQUE or MONEY ORDER only. Please make cheques/money orders payable to the "**The Statistical Society of Ottawa**" and provide the following information:

Name: _____

Affiliation: _____

Telephone: _____

Email: _____

Please send completed registration form along with payment to:

Lisa Corscadden, SSO event coordinator
Statistics Canada
Business Survey Methods Division
R.H. Coats Building, 11th Floor
150 Tunney's Pasture Driveway
Ottawa, Ontario K1A 0T6

Phone: 613 951-0605

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Event Details

WORKSHOP

Michael Escobar, University of Toronto, Department of Public Health Sciences and Department of Statistics

Applied Bayesian Methods

In 1990, there was a breakthrough in Bayesian computational methods. Previously, most Bayesian analyses were restricted to simple, limited applications. With the development of Markov Chain Monte Carlo (MCMC) methods, Bayesian inference has become an important applied technique and has been able to handle complex problems. In fact, some problems are now easier to compute with Bayesian methods than with frequentist methods.

The purpose of this course is to introduce applied Bayesian methods to a wide audience. The basic Bayesian philosophy will be discussed and the underlying principles of the MCMC algorithm will be explained. From there, this course will show how to compute and make inferences on complex data problems using these methods. This course does not assume or use any advanced mathematical statistics or calculus. This is not to "dumb down" the material, but instead the goal is to strip away mathematical jargon that may be needed to prove theorems but is not needed to analyse data nor is it needed to explain results to scientific collaborators. Therefore, the mathematical level of this course is at the level of an applied statistics course such as Weisberg's Applied Linear Regression or Hosmer and Lemeshow's Applied Logistic Regression. As such, this course should appeal to a wide audience including students in statistics as well as applied statisticians who wish to learn how to use this method in their practice. Also, faculty members might be interested in this course so that they can present these methods to a general audience of students in applied fields such as epidemiology or psychology.

SYMPOSIUM

Hwashin Shin, **R.T. Burnett**, Orly Brion, Safe Environments Directorate, Health Canada

A Spatial-Temporal Model for the Effects of Short-Term Exposure to Urban Ambient Air Pollution and Health

The World Health Organization estimates that eight hundred thousand people die annually due to exposure to outdoor air pollution from combustion of fossil fuels worldwide. Millions more people suffer from asthma attacks, pneumonia, bronchitis, and heart attacks. Countries in both the developed and developing world are spending trillions of dollars to improve air quality, in part, to improve the health of their citizens. Are these societal expenditures doing what governments hope? Are they improving the health of their people? This paper addresses these questions by tracking the number of people dying annually from outdoor air pollution exposure and examining if improvements in air quality are in fact leading to fewer deaths. This will be done through simulation studies assessing the statistical properties of the our spatial-temporal model of risk and a detailed examination of whether pollution reductions in Canada over the last 20 years have in fact yielded improvements in public health as measured by changes in daily mortality rates in several of Canada's largest cities in conjunction with changes in outdoor air pollution over time.

Konrad Gajewski, Laboratory for Paleoclimatology and Climatology, Department of Geography and Ottawa-Carleton Institute of Biology and Ottawa-Carleton Geoscience Centre, University of Ottawa

Climate Change: A review of the science

The year 2006 marked a major transition in the public discussion of the issue of climate change, from denial to a general acceptance of the reality of human-caused climate warming. The climate science that led to the acknowledgement of this environmental problem will be reviewed. After a brief overview of the nature of the global climate system, the data and models used to study climate variability will be discussed. Instrumental data collection has been standardized around the world, enabling creation of global scale maps of various atmospheric and ocean parameters. Issues of data reliability will be discussed. However, these records are short, going back only approximately a century. To better understand the many scales of climate variability, "proxy-climate" records are used, which are natural phenomena that respond to climate variations and leave a fossil record. Some of the important sources of paleoclimate data will be discussed and methodology used to convert sedimentary records to climate parameters will be shown. Examples of some results will illustrate what is known about natural climate variability, emphasizing the strengths and weaknesses of the various methods. We will show some examples of scales of climate variability that are well understood, and other scales where more research is needed. Models of the climate system have become quite sophisticated, and models of differing complexity are used to study climate variability. These will be briefly reviewed. Finally, the issue of climate change impacts will be discussed, and how these are used to provide evidence of global warming.

Lisa Lix^{1,2}, William D. Leslie³, Marina Yogendran¹, Richard Baumgartner⁴, Christopher Bowman⁴, Souradet Shaw²

¹Manitoba Centre for Health Policy, University of Manitoba, ²Department of Community Health Sciences, University of Manitoba, ³Department of Internal Medicine, University of Manitoba, ⁴Institute of Biodiagnostics, National Research Council Canada

A comparison of classification models for identifying chronic diseases cases and non-cases in administrative claims data

Administrative claims data are a popular tool for chronic disease surveillance. Algorithms to identify disease cases are often based on a simple heuristic applied to one database. This research compares artificial neural networks, classification trees, and logistic regression to distinguish disease cases from non-cases in multiple databases, using osteoporosis as an example. Training and validation data were obtained from Manitoba, Canada. Data features were disease diagnoses in hospital and physician data, prescriptions for disease treatment, diagnoses and prescriptions for comorbid conditions, and demographics. Sensitivity of the algorithms ranged from 58.6% (specificity=84.7%) to 76.0% (specificity=86.6%). Classification trees had better discriminative power than the other two models. Model-based prevalence estimates were similar to those obtained from a national cohort study. Feature selection techniques and multi-group classification are discussed.

Michael C. Wolfson, Analysis and Development Field, Statistics Canada

GLT (Good Life Time) – An Approach to Measuring Wellbeing

There is continuing interest in summary indices that represent the trend and distribution of wellbeing in a population. However, there has been a general absence of consensus on the principal components of wellbeing, and even more how they might be aggregated into an overall index. One possibility lies in generalizing the concept of life expectancy. The core idea is to describe a population's life course trajectories in terms of a number of key attributes, such as level of income, level of health, and availability of leisure or discretionary time. While time, money and health certainly do not comprise all the essential ingredients for wellbeing, there is little doubt that they are each important. This presentation will work through the conceptual development and empirical construction of a GLT indicator based on sojourn times through a representative sample of lives in a multivariate state-space of time, money and health.