WASHINGTON
STATISTICAL
SOCIETY

WSS NEWS

December 2008

Annual Holiday Dinner!!!

Please come join your friends and colleagues for a celebration of the holiday season.

The 2008 WSS Holiday Dinner will be held Wednesday, December 17, at the Gordon Biersch Brewery from 6:00 to 9:00 pm. Finger foods (wings, hummus salad, pizza & artichoke hearts) and a and cash bar featuring Gordon Biersch Lagers. The Brewery is located at 900 F St, NW, D.C. - close to the Gallery Place Metro Station (green, yellow or red line).

The cost is $25 per person.

Register Online at https://www.123signup.com/register?id=zqyqt

or send cheque payable to WSS to: Yves Thibaudeau, 1037 17th St S, Arlington, VA 22202

If you have questions, please contact Yves at (301)-763-1706 or yves.thibaudeau@census.gov

Hope to see you there!

VOLUNTEERS NEEDED!

Volunteers are needed at different times between March and June 2009 -- to judge entries in the Curtis Jacobs Memorial Prize for Outstanding Statistics Project; to judge entries in the WSS Statistical Poster Competition; and to judge science fair projects at the regional science fairs in Northern Virginia, suburban Maryland and the District of Columbia. The WSS needs **you** to volunteer now for any one – or all three!

The WSS has a longstanding and active program of reaching out to elementary and secondary school students to encourage them to gain an understanding and appreciation of Statistics. We do this in part by sponsoring two annual competitions – the Curtis Jacobs Memorial Prize and the WSS Statistical Poster Competition – and by awarding prizes at the annual regional high school science fairs.

Since 1986, WSS has provided special awards at the five **regional science fairs** to students whose projects demonstrate excellence in data analysis or the application of statistical methods. The fairs are held on Saturdays in March. They need volunteers willing to devote one Saturday morning to interact with students, judge their projects, and give them some guidance and encouragement. Those who have participated in these activities have very much enjoyed meeting the students, talking with them, and seeing the widely diverse projects they have presented. Last March, 27 of your fellow WSS members judged and awarded prizes to projects in Behavioral and Social Sciences, Engineering: Materials and Bioengineering, Chemistry, Physics and Astronomy, Environmental Management, Medicine and Health Sciences, and Animal Sciences. If you are interested in being a science fair judge, contact Bob Clickner at Robertclickner@westat.com, or 301-294-2815.

The **Curtis Jacobs Award** program focuses on gathering information and analyzing for making decisions. Entries are typically due in May; judges review and score the entries at their convenience and transmit their evaluations and scores by late May. If you are interested in volunteering to judge the entries, contact Tom Krenzke at TomKrenzke@westat.com or 301-251-4203.

The **poster competition** is open to students in grades K-12 and entries may be in any area of statistics. Judging is typically in May or June. If you are interested in judging, contact Cammy Fine at Cammy.Fine@ey.com or 202-327-7730, or Ryan Petska at Ryan.Petska@EY.com or 202-327-7245.

WSS and Other Seminars

(All events are open to any interested persons)

December

3 Wed. **Administrative Data in Support of Policy Relevant Statistics: the Earned Income Tax Credit (EITC) – Eligibility, Participation, and Its Impact on Employment**

9 Tues. **Getting Started with ODS Statistical Graphics in SAS 9.2** & **An Introduction to SAS Stat Studio**

12 Fri. **On Robust Tests for Case-control Genetic Association Studies**

12 Fri. **Model Building: Data with Random Location and Random Scale Effects**

16 Tues. **Disclosure Protection: A New Approach to Cell Suppression**

18 Thurs. **Income Data for Policy Analysis: A Comparative Assessment of Eight Surveys**

January

22 Thurs. **Challenges and Opportunities for the Statistics Profession and the American Statistical Association**

Also available on the Web at the following URL: http://www.scs.gmu.edu/~wss/

Note from the WSS NEWS Editor

Items for publication in the December issue of the WSS NEWS will be accepted until December 10, 2008. E-mail items to Michael Feil at michael.feil@usda.gov.

Announcement

Nominations for the Waksberg Award

The journal *Survey Methodology* has established an annual invited paper series in honor of Joseph Waksberg to recognize his contributions to survey methodology. Each year a prominent survey statistician is chosen to write a paper that reviews the development and current state of an important topic in the field of survey methodology. The paper reflects the mixture of theory and practice that characterized Waksberg's work. Previous winners have been Gad Nathan (2001), Wayne Fuller (2002), Tim Holt (2003), Norman Bradburn (2004), J.N.K. Rao (2005), Alastair Scott (2006), Carl-Erik Särndal (2007), and Mary Thompson (2008). The winner of the 2009 Waksberg Award is Graham Kalton of Westat Inc. Graham Kalton will give the 2009 Waksberg Invited Address at the Statistics Canada Symposium to be held in the autumn of 2009.

The author of the 2010 Waksberg paper will be selected by a four-person committee appointed by *Survey Methodology* and the American Statistical Association. Nominations of individuals to be considered as authors or suggestions for topics should be sent before December 31, 2008 to the chair of the committee, Leyla Mohadjer, by email to leylamohadjer@westat.com or by fax +1 (301) 251 4254.

Announcement

Nominations Sought for 2009 Julius Shiskin Award

Nominations are invited for the annual Julius Shiskin Memorial Award for Economic Statistics. The Award is given in recognition of unusually original and important contributions in the development of economic statistics or in the use of statistics in interpreting the economy. Contributions are recognized for statistical research, development of statistical tools, application of information technology techniques, use of economic statistical programs, management of statistical programs, or developing public understanding of measurement issues. The Award was established in 1980 by the Washington Statistical Society (WSS) and is now cosponsored by the WSS, the National Association for Business Economics, and the Business and Economics Statistics Section of the American Statistical Association (ASA). The 2008 award recipients were William R. Bell and Robert M. Groves. Dr. Bell was recognized for his innovative statistical research that led to improved economic statistics through important contributions to the theory and practice of seasonal adjustment, small area estimation, and time series modeling; Dr. Groves was recognized for his innovative statistical research that led to improved economic statistics through important contributions to the theory and practice of survey methods for the conduct of sample surveys of both households and establishments.

Because the program was initiated many years ago, statisticians and economists often ask, "Who was Julius Shiskin?" At the time of his death in 1978, "Julie" was the Commissioner of the Bureau of Labor Statistics (BLS) and earlier served as the Chief Statistician at the Office of Management and Budget (OMB), and the Chief Economic Statistician and Assistant Director of the Census Bureau. Throughout his career, he was known as an innovator. At Census he was instrumental in developing an electronic computer method for seasonal adjustment. In 1961, he published *Signals of Recession and Recovery,* which laid the groundwork for the calculation of monthly economic indicators, and he developed the monthly Census report *Business Conditions Digest* to disseminate them to the public. In 1969, he was appointed Chief Statistician at OMB where he developed the policies and procedures that govern the release of key economic indicators (Statistical Policy Directive Number 3), and originated a *Social Indicators* report. In 1973, he was selected to head BLS where he was instrumental in preserving the integrity and independence of the BLS labor force data and directed the most comprehensive revision in the history of the Consumer Price Index (CPI), which included a new CPI for all urban consumers.

Nominations for the 2009 award are now being accepted. Individuals and groups in the public or private sector from any country can be nominated. The award will be presented with an honorarium of $750 plus additional recognition from the sponsors. A nomination form and a list of all previous recipients are available on the ASA Website at www.amstat.org/sections/bus_econ/shiskin.html. For questions or more information, please contact Steven Paben, Julius Shiskin Award Committee Secretary, via e-mail at paben.steven@bls.gov or phone at 202-691-6147.

Completed nominations must be received by April 1, 2009.

Announcement

SIGSTAT Topics

December 17, 2008: GeoDA
(https://www.geoda.uiuc.edu/)

GeoDa is the latest incarnation in a long line of software tools developed by Dr. Luc Anselin's Spatial Analysis Laboratory (SAL) in the Department of Geography at the University of Illinois, Urbana-Champaign. It is designed to implement techniques for exploratory spatial data analysis (ESDA) on lattice data (points and polygons). The free program provides a user friendly and graphical interface to methods of descriptive spatial data analysis, such as spatial autocorrelation statistics, as well as basic spatial regression functionality. The latest version contains several new features such as a cartogram, a refined map movie, parallel coordinate plot, 3D visualization, conditional plots (and maps) and spatial regression.

January 21, 2009: GeoDA – Part 2
(https://www.geoda.uiuc.edu/)

GeoDa is the latest incarnation in a long line of software tools developed by Dr. Luc Anselin's Spatial Analysis Laboratory (SAL) in the Department of Geography at the University of Illinois, Urbana-Champaign. It is designed to implement techniques for exploratory spatial data analysis (ESDA) on lattice data (points and polygons). The free program provides a user friendly and graphical interface to methods of descriptive spatial data analysis, such as spatial autocorrelation statistics, as well as basic spatial regression functionality. The latest version contains several new features such as a cartogram, a refined map movie, parallel coordinate plot, 3D visualization, conditional plots (and maps) and spatial regression.

Continuing the December discussion, this month will cover:

Spatial Data Manipulation
EDA Basics, Linking
Brushing Scatter Plots and Maps
Multivariate EDA Basics
Advanced Multivariate EDA

February 11, 2009: GeoDA – Part 3
(https://www.geoda.uiuc.edu/)

GeoDa is the latest incarnation in a long line of software tools developed by Dr. Luc Anselin's Spatial Analysis Laboratory (SAL) in the Department of Geography at the University of Illinois, Urbana-Champaign. It is designed to implement techniques for exploratory spatial data analysis (ESDA) on lattice data (points and polygons). The free program provides a user friendly and graphical interface to methods of descriptive spatial data analysis, such as spatial autocorrelation statistics, as well as basic spatial regression functionality. The latest version contains several new features such as a cartogram, a refined map movie, parallel coordinate plot, 3D visualization, conditional plots (and maps) and spatial regression.

Continuing the January discussion, this month will cover:

ESDA Basics and Geovisualization
Advanced ESDA
Basic Rate Mapping
Rate Smoothing
Contiguity-Based Spatial Weights

March 18, 2009: **What's New in SAS 9.2**
(http://support.sas.com/documentation/whatsnew/index.html)

Some of the enhancements in the latest release of the SAS System include new language features and procedure options, ODS Statistical Graphics (previously experimental), which are now in production; a new family of SAS/GRAPH procedures that use ODS Graphics to create standalone plots; new procedures in SAS/STAT software; jackknife and BRR variance estimation and domain analysis provided by the survey data analysis procedures; the PANEL procedure in SAS/ETS which expands the estimation capability of the TSCSREG procedure in the time-series cross-sectional framework; and SAS Stat Studio, new software for data exploration and analysis, providing a flexible programming environment in which you can run SAS/STAT or SAS/IML analyses and display the results with dynamically linked graphics and data tables.

SIGSTAT is the Special Interest Group in Statistics for the **CPCUG**, the Capital PC User Group, and **WINFORMS**, the Washington Institute for Operations Research Service and Management Science. All meetings are in Room S3031, 1800 M St, NW from **12:00 to 1:00**. Enter the South Tower & take the elevator to the 3rd floor to check in at the guard's desk.

First-time attendees should contact Charlie Hallahan, 202-694-5051, hallahan@ers.usda.gov, and leave their name. Directions to the building & many links of statistical interest can be found at the **SIGSTAT** website, **http://www.cpcug.org/user/sigstat/**.

Program Announcement

Title: **Administrative Data in Support of Policy Relevant Statistics: the Earned Income Tax Credit (EITC) – Eligibility, Participation, and Its Impact on Employment**

Speaker: V. Joseph Hotz, Arts & Sciences Professor of Economics, Department of Economics, Duke University

Discussant: Nada Eissa, Associate Professor of Public Policy and Economics, Georgetown Public Policy Institute, Georgetown University

Chair: Clinton W. Brownley

Date/Time: Wednesday, December 3, 2008 / 12:30 – 2:00 p.m.

Location: Bureau of Labor Statistics Conference Center, Room 10. To be placed on the seminar attendance list at the Bureau of labor Statistics, you need to email your name, affiliation and seminar name to wss_seminar@bls.gov (note that there is an underscore after 'wss') by noon at least two days in advance of the seminar or call 202-691-7524 and leave a message with this information. Bring a photo ID to the seminar. BLS is located at 2 Massachusetts Ave., NE. Take the Red Line to Union Station.

Sponsor: WSS Section on Public Policy

Abstract: Hotz will report on research he has conducted on the EITC using administrative matched administrative data sources for the State of California during the 1990s. These data include information from California's welfare and unemployment insurance administrative data systems that is linked to federal tax returns under a unique arrangement with the State of California's taxing authority. Hotz will report on findings on rates of EITC eligibility, participation and the impacts of the EITC on rates of employment for California using these data.

Program Announcement

SAS - New Extensions

The Statistical Computing Section of WSS is jointly sponsoring with the DC SAS User Group, DCSUG, two presentations by Bob Rodriguez of SAS Institute. The talks, listed below, discuss statistical graphics and a new product, SAS Stat Studio. The talks will be held on Tuesday, December 9, 2008, from 9:15 to 11:45 in the BLS Conference Center. Further details for this presentation can be found at www.dc-sug.org (from Oct 1 onwards).

All those who plan to attend must be on WSS or DCSUG entry list or have a BLS ID.

Getting Started with ODS Statistical Graphics in SAS 9.2
Robert N. Rodriguez, SAS Institute

SAS 9.1 introduced an experimental extension to the output Delivery System (ODS), which enabled over two dozen SAS/STAT and SAS/ETS procedures to create statistical graphics as automatically as they create tables. This extension, referred to as "ODS Graphics" for short, requires minimal additional syntax, and it provides commonly needed displays for data analysis and statistical modeling, including scatter plots, histograms, and box-and-whisker plots. Many ODS features, such as styles and destination statements, apply equally to tables and graphs.

With the production release of ODS Graphics in SAS 9.2, over sixty statistical procedures have been enables to use this new functionality. New SAS/GRAPH procedures, as well as existing SAS/QC procedures, also take advantage of this functionality. Additional ODS styles for statistical work are available. You can use a new point-and-click graphics editor to make changes to graphs, such as modifying titles and annotating points. This talk explains the basics of using ODS Graphics to create and manage graphs for data exploration and statistical analysis.

An Introduction to SAS Stat Studio
Robert N. Rodriguez, SAS Institute

SAS Stat Studio 3.1 is new statistical software in SAS 9.2 that is designed to meet the needs of innovative problem solvers who are familiar with SAS/STAT or SAS/IML but need more versatility to create customized analyses. Stat Studio provides a rich programming environment that blends the flexibility of the IML matrix language with the ability to call SAS procedures as functions and create customized dynamic graphics.

With Stat Studio, you can build on your familiarity with either SAS/STAT or SAS/IML to write programs that explore data, fit models, and use linked graphics to relate the results to the data. You can move seamlessly between programming and interactive analysis. If your programs use methods that are computationally intensive, you can run them simultaneously in multiple workspaces. This talk demonstrates how Stat Studio facilitates techniques that would otherwise be difficult with traditional SAS programming.

Biographical Sketch

Bob Rodriguez joined SAS in 1983 and is currently a senior director in SAS R&D with responsibility for the development of statistical software, including SAS/STAT and SAS/QC. He received his Ph.D. in statistics from the University of North Carolina in 1977, and was a staff research scientist at General Motors Research Laboratories from 1977 until 1983. Bob is active in the American Statistical Association, where he currently serves as vice president.

Program Announcement

National Heart Lung and Blood Institute
People Science Health

Office of Biostatistics Research
Division of Prevention and Population Sciences

(Bio)Statistics Seminar Series

10:30am-11:30am
December 12, 2008

Conference Room 9091, Two Rockledge Center,
6701 Rockledge Drive, Bethesda, MD 20892

On robust tests for case-control genetic association studies

Gang Zheng, Ph.D.
Office of Biostatistics Research
National Heart, Lung and Blood Institute

Abstract

When testing association between a single marker and a disease using case-control samples, the data can be presented in a 2x3 table. Pearson's Chi-square test (2 *df*) and the trend test (1 *df*) are commonly used. Usually one does not know which of them to choose. It depends on the unknown genetic model underlying the data. So one could either choose the maximum (MAX) of a family of trend tests over all possible genetic models (following Davies, 1977; 1987; both in *Biometrika*) or take the smaller p-values (MIN2) of Pearson's test and the trend test (following WTCCC - Wellcome Trust Case-Control Consortium, 2007, *Nature*).

We first show that Pearson's test, the trend test and MAX are all trend tests with different types of scores: data-driven or prespecified, restricted or not restricted. The results provide insight into the properties that **MAX is always more powerful than Pearson's test when the genetic model is restricted** and that **Pearson's test is more robust when the model is not restricted**. Then, for the MIN2 of WTCCC (2007), we show that its asymptotic null distribution can be derived, so the p-value of MIN2 can be obtained. Simulation is used to compare some common test statistics. The results are applied to WTCCC (2007). In particular, MIN2 is applied to the SNPs obtained by The SEARCH Collaborative Group (*NEJM*, August 21, 2008) who used MIN2 to detect these SNPs in a genome-wide association study, but also reported the minimum p-values as the true p-values.

This talk is based on three recent manuscripts with Jungnam Joo, and/or Minjung Kwak, Kwangmi Ahn and Yaning Yang.

Program Announcement

Title: **Model Building: Data with Random Location and Random Scale Effects**

Speaker: William S. Cleveland, Shanti S. Gupta Distinguished Professor, Purdue

Joint work with Lei Shu, Abbott Laboratories; Chaunhai Liu, Purdue; and Lorraine Denby, Avaya Labs

Date/time: Friday, December 12, 2008 / 10:00-11:00 a.m.

Location: Georgetown University Medical Center, Lombardi Comprehensive Cancer Center, 4000 Reservoir Rd, NW, Warwick Evans Conference Room, Building D, Washington, DC 20007

Sponsor: Department of Biostatistics, Bioinformatics and Biomathematics
For information, please contact Caroline Wu at 202-687-4114 or ctw26@georgetown.edu

Abstract: General approaches and tools for model building will be presented for data with random effects, pervasive in medical studies where people are units with repeat measurements. Typically, fitted models have random location effects, but any time location effects are present, there is a high potential for random scale effects to be present; at the very least, it is wise to routinely check for scale effects.

Our stepwise model building approach identifies the error, scale, and location distributions, in that order; each subsequent step uses any previous identifications. Visualization tools are at the core of the identification methods. Also at the core is in-field null-power simulation, which applies to the specific data at hand and its specific finite sample. Null simulations allow us to judge if deviations from expected patterns warrant attention. Power simulations determine our ability to differentiate alternative models. Approaches and methods are illustrated by application to three data sets from customer opinion polling, nutrition, and hospital services.

Program Announcement

Title: **Disclosure Protection: A New Approach to Cell Suppression**

Speakers: Bei Wang, U.S. Bureau of the Census

Discussant: Lawrence Cox, National Center for Health Statistics

Chair: Linda Atkinson, Economic Research Service, USDA

Date/Time: Tuesday, December 16, 2008 / 12:30 - 2:00 p.m.

Location: Bureau of Labor Statistics Conference Center. To be placed on the seminar attendance list at the Bureau of Labor Statistics you need to e-mail your name, affiliation, and seminar name to wss_seminar@bls.gov (underscore after `wss') by noon at least 2 days in advance of the seminar or call 202-691-7524 and leave a message. Bring a photo ID to the seminar. BLS is located at 2 Massachusetts Avenue, NE. Take the Red Line to Union Station.

Sponsor: WSS Economics Section

Abstract: Census products and related programs use cell suppression to protect data that is sensitive to our respondents. A disclosure procedure is applied before any data goes out for publication. The underlining algorithm used is a network flow model. We will review the disclosure procedure and how well the model does. A question that always arises is "how is a near optimized solution to be determined to the Cell Suppression Problem (CSP)?" A new linear programming approach is used in this research. The algorithm is applied to Survey of Business Owners (SBO)'s Hispanic data and comparisons with the 2002 publications are made.

Program Announcement

Title: **Income Data for Policy Analysis: A Comparative Assessment of Eight Surveys**

Speaker: John Czajka, Mathematica Policy Research, Inc.

Discussants: David Johnson, U.S. Census Bureau
Roberton Williams, Urban Institute

Chair: Joan Turek, Office of the Assistant Secretary for Planning and Evaluation, Department of Health and Human Services

Date/Time: December 18th, 2008 (Thursday) / 12:30 – 2:00 p.m.

Location: Bureau of Labor Statistics Conference Center. To be placed on the seminar attendance list at the Bureau of labor Statistics, you need to email your name, affiliation and seminar name to wss_seminar@bls.gov (note that there is an underscore after 'wss') by noon at least two days in advance of the seminar or call 202-691-7524 and leave a message with this information. Bring a photo ID to the seminar. BLS is located at 2 Massachusetts Ave., NE. Take the Red Line to Union Station.

Sponsor: WSS Section on Public Policy

Abstract: Income is a critical variable in policy analysis, and because of this, most federal household surveys collect at least some data on income. Yet income is exceedingly difficult to measure well in a household survey. Income questions produce some of the highest item nonresponse rates recorded in surveys, and comparisons of survey estimates with benchmarks developed from administrative records provide evidence of significant under-reporting for many sources. Under contract to the Office of the Assistant Secretary for Planning and Evaluation (ASPE), Department of Health and Human Services (HHS), Mathematica Policy Research, Inc. (MPR) and its subcontractor, Denmead Services & Consulting, have conducted a comprehensive and systematic assessment of the income data and its utility for policy-related analyses in eight major surveys: the Survey of Income and Program Participation (SIPP); the Annual Social and Economic Supplement to the Current Population Survey (CPS); the American Community Survey (ACS); the Household Component of the Medical Expenditure Panel Survey (MEPS); the National Health Interview Survey (NHIS); the Medicare Current Beneficiary Survey Cost and Use files (MCBS); the Health and Retirement Study (HRS); and the Panel Study of Income Dynamics (PSID).

The assessment included both descriptive and empirical components. The descriptive component compiled extensive information on survey design and methodology in addition to the measurement of income and poverty and presented these data in a side-by-side format. The empirical component generated comparative tabulations of the distribution of income and poverty status for a range of personal characteristics for a common universe, income concept, and family definition, to the extent that this was feasible. Additional analysis focused on the implications of specific design choices.

This seminar will present key findings from the study. Findings from the descriptive analysis will include the treatment of armed forces members and students living away from home, survey timing and recall, and sources of income captured. Empirical findings will include comparative estimates of aggregate income and its distribution by quintile; poverty status; earned versus unearned income; the proportion of income allocated because of nonresponse; and the frequency of rounding. Highlights of the methodological analyses will include the impact of the family definition on estimated poverty; the effect of proximity of measured family composition to the income reference period, and the relationship between the interview month and the frequency of allocation.

Program Announcement

Title: **Challenges and Opportunities for the Statistics Profession and the American Statistical Association**

Speaker: Ronald L. Wasserstein, Ph.D.
Executive Director
American Statistical Association

Sponsor: Office of Biostatistics Research
Division of Prevention and Population Sciences
National Heart, Lung, and Blood Institute

(Bio)Statistics Seminar Series

Date/Time: Thursday, January 22, 2009 / 11am - noon

Location: Conference Room 9091
Two Rockledge Center, 6701 Rockledge Drive,
Bethesda, MD 20892

Abstract: From his perspective as ASA's Executive Director, Ron Wasserstein will discuss seven sets of challenges and opportunities he sees as particularly important for our profession, and for the ASA. These include: membership, the statistical pipeline, visibility and impact of the profession, publications, meetings, internationalization/globalization, and accreditation. Each set includes a set of questions for the participants, so a large portion of the time will be spent in audience discussion.

Course Announcements

College of Arts and Science - University of District of Columbia
4200 Connecticut Avenue, N.W., Washington D.C.20008

Department of Mathematics of the University of the District of Columbia offers Master of Science in Applied Statistics Program Starting fall 2009.

During the spring of 2009 (January 14-May 13) the Master of Science Program will be launched with the following courses:

*1535- 573 SURVEY OF PROBABILITY AND STATISTICS (3 CREDITS) Thursday 5:30-8:20 P.M. Room 212F, Bldg.42

COURSE DESCRIPTION: This course is a survey of statistics and probability. Topics include: design of experiments and data production; descriptive techniques for univariate and bivariate data; measurement error; probability and probability distributions; sampling error and its measurement; introduction to estimation, hypothesis testing, and probability models; and tests.

PREREQUISIT: Admission to the Master of Science in Applied Statistics Program.

*Note: This course is designed for students who have a good mathematics background and wish to enroll in the MS program without having a previous course work in statistics or formal experience in the practice of statistics.

1535-574 PROBABILITY THEORY (3 CREDITS)
Friday 5:30-8:20 P.M. Room B01-28, Bldg.32

COURSE DESCRIPTION: This course provides an introduction to the mathematical theory of probability. Topics include: combinatorial analysis; conditional probability; stochastic independence; probability distributions of random variables; probabilistic foundations of statistics; limit theorems; and the law of large numbers.

COREQUISITE: Survey of Probability and Statistics, or Math 1535-381(Probability and Statistics) or permission of the Department

PREREQUISITE: Calculus II

For Applications contact: Office of Graduate Admission, University of District of Columbia, (202) 274-6110.

For more information, contact: Dr. Aroona S. Borpujari (Program Coordinator); 202-274-5390; aborpuja@udc.edu ; OR Dr. Vernise Steadman (Chairman, Department of Mathematics); 202-274-6151; vsteadma@udc.edu.

Applied and Computational Mathematics (ACM) Program
Johns Hopkins University

The Applied and Computational Mathematics (ACM) Program at the Johns Hopkins University will offer the graduate courses listed below in the spring 2009 semester (26 January 2009 to 9 May 2009) at locations in the Baltimore Washington area (Howard and Montgomery Counties, Maryland).

Subject to meeting admission criteria, a non-degree candidate may register as a special student to take one or more courses to enhance mathematical and statistical skills. These courses are scheduled at times convenient for the working adult. Registration and general information is at www.epp.jhu.edu. Information specific to the ACM Program is at www.epp.jhu.edu/graduate-degree-programs/applied-and-computational-mathematics.

An Open House for prospective students will be held on Thursday, 4 December 2008, at the JHU Applied Physics Laboratory (see www.epp.jhu.edu/open-houses). Further information related to academic requirements and course content is available from Dr. James Spall, Program Chair (240-228-4960). Courses offered in spring 2009 are:

625.251 Applied Mathematics II (this course provides mathematical background for certain graduate courses at JHU; this course does not count for graduate credit)
Instructor: James D'Archangelo
Time and location: Wednesdays, 7:20 10:00PM, Applied Physics Laboratory (southern Howard County)
(This course is a companion to 625.250, but 625.250 is not a prerequisite) Topics include ordinary differential equations, Fourier series and integrals, the Laplace transformation, Bessel functions and Legendre polynomials, and an introduction to partial differential equations.
Prerequisites: Differential and integral calculus. Students with no experience in linear algebra may find it helpful to take 625.250 Applied Mathematics I first.

625.401 Real Analysis
Instructor: Stacy D. Hill
Time and location: Thursdays, 7:20 10:00PM, Applied Physics Laboratory (southern Howard County)
This course presents a rigorous treatment of fundamental concepts in analysis. Emphasis is placed on careful reasoning and proofs. Topics covered include the completeness and order properties of real numbers; limits and continuity; conditions for integrability and differentiability; infinite sequences and series. Basic notions of topology and measure are also introduced.
Prerequisites: Multivariate calculus

625.403 Statistical Methods and Data Analysis
Instructor: Sue-Jane Wang
Time and location: Mondays, 4:30 7:10PM, Montgomery County Center (Rockville, MD) This course introduces commonly used statistical techniques. The intent of this course is to provide an understanding of statistical techniques and a "tool box" of methodologies. The course also covers the mathematical foundations of common methods as an aid towards understanding both the types of applications that are appropriate and the limits of the methods. Matlab and statistical software are used so students can apply statistical methodology to practical problems in the workplace. Topics include the basic laws of probability and descriptive statistics, conditional probability, random variables, expectation and variance, discrete and continuous probability models, bivariate distributions and covariance, sampling distributions, hypothesis testing, method of moments and maximum likelihood point (MLE) estimation, confidence intervals, contingency tables, analysis of variance (ANOVA), and linear regression modeling.
Prerequisites: Multivariate calculus.

625.404 Ordinary Differential Equations
Instructor: Ronald Farris
Time and location: Thursdays, 4:30 7:10PM, Applied Physics Laboratory (southern Howard County) This course provides an introduction to the theory, solution and application of ordinary differential equations. Topics discussed in the course include methods of solving first-order differential equations, existence and uniqueness theorems, second-order linear equations, power series solutions, higher-order linear equations, systems of equations, non-linear equations, Sturm-Liouville theory, and applications. The relationship between differential equations and linear algebra is emphasized in this course. An introduction to numerical solutions is also provided. Applications of differential equations in physics, engineering, biology and economics are presented.
Prerequisites: Two or more terms of calculus are required. Course in linear algebra would be helpful.

625.417 Applied Combinatorics and Discrete Mathematics
Instructor: J. Miller Whisnant
Time and location: Tuesdays, 4:30 7:10PM, Applied Physics Laboratory (southern Howard County) Combinatorics and discrete mathematics are increasingly important fields of mathematics because of their extensive applications in computer science, statistics, operations research, and engineering. The purpose of this course is to teach students to model, analyze, and solve combinatorial and discrete mathematical problems. Topics include elements of graph theory, graph coloring and covering circuits, the pigeonhole principle, counting methods, generating functions, recurrence relations and their solution, and the inclusion-exclusion formula. Emphasis is on the application of the methods to problem solving.
Prerequisites: Two or more terms of calculus.

625.438 Neural Networks
Instructor: J. Miller Whisnant
Time and location: Mondays, 4:30 7:10PM, Applied Physics Laboratory (southern Howard County)
This course provides an introduction to concepts in neural networks and connectionist models. Topics include parallel distributed processing, learning algorithms, and applications. Specific networks discussed include Hopfield networks, bidirectional associative memories, perceptrons, feedforward networks with back propagation, and competitive learning networks, including self-organizing and Grossberg networks. Software for some networks is provided.
Prerequisites: Multivariate calculus.

625.462 Design and Analysis of Experiments
Instructor: Barry Bodt
Time and location: Tuesdays, 4:30 7:10PM, Applied Physics Laboratory (southern Howard County)
Statistically designed experiments are the efficient allocation of resources to maximize the amount of information obtained with a minimum expenditure of time and effort. Design of experiments is applicable to both physical experimentation and computer simulation models. This course covers the principles of experimental design, the analysis of variance method, the difference between fixed and random effects and between nested and crossed effects, and the concept of confounded effects. The designs covered include completely random, randomized block, Latin squares, split-plot, factorial, fractional factorial, nested treatments and variance component analysis, response surface, optimal, Latin hypercube, and Taguchi. Any experiment can correctly be analyzed by learning how to construct the applicable design structure diagram (Hasse diagrams).
Prerequisites: Multivariate calculus, linear algebra, and one semester of graduate probability and statistics (e.g. 625.403 Statistical Methods and Data Analysis). Some computer-based homework assignments will be given.

625.490 Computational Complexity and Approximation
Instructor: Kerry Wood
Time and location: Wednesdays, 4:30 7:10PM, Applied Physics Laboratory (southern Howard County)
This course will cover the theory of computational complexity, with a focus on popular approximation and optimization problems and algorithms. It begins with important complexity concepts including Turing machines, Karp and Turing reducibility, basic complexity classes, and the theory of NP-completeness. It then discusses the complexity of well-known approximation and optimization algorithms, and introduces approximability properties, with special focus on approximation algorithm and heuristic design. The impact of emerging computing techniques, such as massive parallelism and quantum computing, will also be discussed. The course will specifically target algorithms with practical significance, and techniques that can improve performance in real-world implementations.
Prerequisites: Introductory probability theory and/or statistics (such as 625.403) and undergraduate-level exposure to algorithms and matrix algebra. Some familiarity with optimization and computing architectures is desirable, but not necessary.

625.726 Theory of Statistics II
Instructor: Mostafa Aminzadeh
Time and location: Wednesdays, 4:30 7:10PM, Applied Physics Laboratory (southern Howard County)
This course is the continuation of 625.725. It covers method of moments estimation, maximum likelihood estimation, the Cramér-Rao inequality, sufficiency and completeness of statistics, uniformly minimum variance unbiased estimators, the Neyman-Pearson Lemma, the likelihood ratio test, goodness-of-fit tests, confidence intervals, selected non parametric methods, and decision theory.
Prerequisites: 625.725 Theory of Statistics I or equivalent

625.734 Queuing Theory with Applications to Computer Science
Instructor: Christine Nickel
Time and location: Mondays, 7:20 10:00PM, Applied Physics Laboratory (southern Howard County)
Queues are a ubiquitous part of everyday life; common examples are supermarket checkout stations, help desks call centers, manufacturing assembly lines, wireless communication networks, and multi-tasking computers. Queuing theory provides a rich and useful set of mathematical models for the analysis and design of service process for which there is contention for shared resources. This course explores both theory and application of fundamental and advanced models in this field. Fundamental models include single and multiple server Markov queues, bulk arrival and bulk service processes, and priority queues. Applications emphasize communication networks and computer operations, but may include examples from transportation, manufacturing, and the service industry. Advanced topics may vary.
Prerequisites: Multivariate calculus and a graduate course in probability and statistics such as 625.403.

625.743 Stochastic Optimization and Control
Instructor: James C. Spall
Time and location: Thursdays, 4:30 7:10PM, Applied Physics Laboratory (southern Howard County)
Stochastic optimization plays an increasing role in the analysis and control of modern systems. This course introduces the fundamental issues in stochastic search and optimization with special emphasis on cases where classical deterministic search techniques (steepest descent, Newton-Raphson, linear and nonlinear programming, etc.) do not readily apply. These cases include many important practical problems, which will be briefly discussed throughout the course (e.g., neural network training, nonlinear control, experimental design, simulation- based optimization, sensor configuration, image processing, discrete-event systems, etc.). Both global and local optimization problems will be considered. Techniques such as random search, least mean squares (LMS), stochastic approximation, simulated annealing, evolutionary computation (including genetic algorithms), and machine learning are discussed.
Prerequisites: Multivariate calculus, linear algebra, and at least one semester of graduate probability and statistics (e.g. 625.403 Statistical Methods and Data Analysis). Some computer-based homework assignments will be given. It is recommended that this course be taken in the last half of a student's degree program for those seeking an M.S. degree.

Announcement

Call for Abstracts
Info-Fusion: Utilization of Multi-Source Data
Twelfth Biennial CDC Symposium on Statistical Methods
April 7-8, 2009

Statisticians, social and behavioral scientists, epidemiologists, economists, policy analysts, and other health researchers are invited to participate in the Twelfth Biennial Symposium on Statistical Methods to be held in Decatur, Georgia (Atlanta metropolitan area). The Symposium is sponsored by the Centers for Disease Control and Prevention* (CDC) and the American Statistical Association (ASA). The theme of the 2009 Symposium is "Info-Fusion: Utilization of Multi-Source Data." In conjunction with the Symposium, short courses will be offered on April 6, 2009 and announced at a later date.

Submission of abstracts is encouraged for contributed sessions of oral and poster presentations related to any of the following Symposium topic areas:

* Application of analytic techniques to multiple data sources
* Best practices in information fusion and biosurveillance
* Statistical issues in bioterrorism and environmental tracking
* Public health threat surveillance, monitoring, and assessment
* Public health preparedness, emergency or disaster response
* Spatial-temporal analysis of multiple information sources
* Applications of health risk analysis, risk modeling, and decision science
* Model assessment in large linked or networked data bases
* Cutting edge analytics applied to public health data

To submit an abstract, go to: http://www.amstat.org/meetings/cdcatsdr

Abstracts will be considered for either oral or poster presentation and must be submitted no later than December 15, 2008. The Symposium program will be determined by the end of January, after which authors will be notified of acceptance or rejection. For more information, please contact:

Drew Baughman
Centers for Disease Control and Prevention
1600 Clifton Road NE (MS C-25)
Atlanta, GA 30329
(404) 639-8198
DBaughman@cdc.gov

JPSM Short Courses

OPEN FOR REGISTRATION

January 29-30, 2009
Web Survey Design
Mick Couper
Registration Deadline: January 15, 2009

February 19, 2009
Practical Tools for Nonresponse Bias Studies
Robert M. Groves and J. Michael Brick
Registration Deadline: February 5, 2009

February 23-24, 2009
Introduction to Survey Estimation
David Morganstein and Richard L. Valliant
Registration Deadline: February 9, 2009

March 10-11, 2009
The Psychology of Survey Responses
Roger Tourangeau
Registration Deadline: February 24, 2009

March 25-26, 2009
Introduction to Survey Sampling
Colm O'Muircheartaigh and James M. Lepkowski
Registration Deadline: March 11, 2009

April 6-7, 2009
Guidelines for Writing Questions for Standardized Measurement
Nora Cate Schaeffer
Registration Deadline: March 23, 2009

May 11-12, 2009
Methods for Testing Survey Questions
Pamela Campanelli
Registration Deadline: April 27, 2009

ADDITIONAL 2009 COURSES

May 28-29, 2009 (Not yet open for registration)
Bayesian Inference in Surveys
Roderick Little and Trivellore E. Raghunathan
Registration Deadline: May 14, 2009

2009 (Dates to be determined)

Analysis and Presentation of Economic Data
Katharine G. Abraham and Deborah P. Klein

2009 (Course is tentative)

Introduction to Item Response Theory (IRT) Modeling and Applications
Bryce B. Reeve

INFORMATION

Course Details and Online Registration
www.jpsm.org/shortcourses

Sponsor Affiliate List
projects.isr.umich.edu/jpsm/info.cfm#sponsors

Primary Funding for JPSM is from the Interagency Council on Statistical Policy.

JPSM Short Course

WEB SURVEY DESIGN

A two-day short course sponsored by the Joint Program in Survey Methodology

JANUARY 29-30, 2009
Presented at the Marriott at Metro Center, Washington DC

MICK P. COUPER
Research Professor
Institute for Social Research, University of Michigan
Joint Program in Survey Methodology, University of Maryland

COURSE ABSTRACT

The course will focus on the design of Web survey instruments and procedures, based on theories of human-computer interaction, interface design, and empirical research on Web survey design and implementation. The course will begin with a review of Web or Internet surveys in the general context of sources of survey error (sampling, coverage, nonresponse, measurement error, and costs). The course will then discuss different approaches to Web survey design (e.g., scrolling versus paging) and discuss various design approaches for developing effective Web surveys. The course will draw on empirical results from experiments on alternative design approaches as well as practical experience in the design and implementation of Web surveys. The course will not focus on the technical aspects of Web survey implementation, such as hardware, software or programming.

PREREQUISITES

A working knowledge of survey research methods will be assumed. No knowledge of Web programming or scripting (HTML, JavaScript) or any particular software package is necessary.

THE INSTRUCTOR

Mick Couper is a Research Professor in the Survey Research Center at the Institute for Social Research and in the Joint Program in Survey Methodology at the University of Maryland. He received a Ph.D. in sociology from Rhodes University, an M.A. in applied social research from the University of Michigan and an M.Soc.Sc. from the University of Cape Town. He is co-author of Nonresponse in Household Interview Surveys, chief editor of Computer Assisted Survey Information Collection, co-author of Survey Methodology (all published by Wiley), and author of Designing Effective Web Surveys (Cambridge). His current research interests focus on aspects of technology use in surveys, whether by interviewers or respondents.

TENTATIVE COURSE SCHEDULE

THURSDAY, JANUARY 29, 2009

8:00 - 9:00	Registrant Check-in and Continental Breakfast
9:00 - 10:00	Introduction and Overview. Sources of error in Web surveys; types of Websurveys.
10:00 - 10:30	Break
10:30 - 12:00	Importance of Design. Types of Web surveys (continued); implications for Design.
12:00 - 1:00	Lunch
1:00 - 2:30	Designing Questions - The Basic Building Blocks of a Web Survey. Basic HTML tools for creating survey questions; radio buttons, check boxes, drop boxes, text fields, text areas, etc.; going beyond HTML: multimedia, graphics, Web 2.0, other tools.
2:30 - 3:00	Break
3:00 - 4:30	General Layout and Design. Typography, font size and style; background design; layout and screen design; use of grids or matrices.
4:30	Adjourn

FRIDAY, JANUARY 30, 2009

7:30 - 8:30	Registrant Check-in and Continental Breakfast
8:30 - 10:00	General Layout and Design. Continued.
10:00 - 10:30	Break
10:30 - 12:00	Putting the Questions Together to Create a Questionnaire. Instructions; skips, edit checks and routing; progress and movement through the instrument; error messages.
12:00 - 1:00	Lunch
1:00 - 2:30	Putting the Questions Together to Create a Questionnaire. Continued.
2:30 - 3:00	Break
3:00 - 4:30	Implementing the Web Survey. The e-mail invitation; access control and login; the welcome screen; follow-up reminders and repeat access; wrap up.
4:30	Adjourn

COURSE MATERIALS

Registrants will be provided with a copy of the book "Designing Effective Web Surveys" and a course lecture notebook.

MEALS

JPSM group continental breakfasts, lunches and refreshments are included in the course fee.

JPSM SHORT COURSES: www.jpsm.org/shortcourses
SPONSOR AFFILIATE LIST: projects.isr.umich.edu/jpsm/info.cfm#sponsors

FEES

The course fee is $665 for JPSM sponsor affiliates, $665 for full-time university students, and $875 for other participants.

REGISTRATION

Online registration is required. Confirmation of acceptance will be sent after the registration form has been processed. Registration is not firm until you receive an acceptance email. The email will include directions to the course. The automatic web registration number is not an acceptance letter. The registration deadline is January 15, 2009.

PAYMENT

Payment by credit card is required. Payment may be done online during registration. Post registration payment may be done online using the registration number or by calling (800) 937-9320. Payment is required by January 15, 2009.

CANCELLATION

Please notify JPSM as soon as possible if you need to cancel your registration. Cancellation requests should be done online. You will be fully reimbursed if you cancel by January 15, 2009. Cancellation January 16-21 2009 will require a $100 administrative fee, the remainder will be reimbursed. Cancellation on or after January 22, 2009 is subject to the full fee amount.

FELLOWSHIP

The Joint Program in Survey Methodology strives to increase the number of survey professionals from groups traditionally under-represented in the field. As part of this effort, a limited number of competitive fellowships are available to African-Americans, Latinos, Hispanic Americans, and Native American Indians for the short course. The registrant must be a US citizen or permanent resident.

The applicants should submit:

1. Online registration

2. A 500-word essay describing their reasons for wanting to attend this short course and how their participation will enhance their chosen career path. The essay should indicate the applicant's background (i.e., African-American, Latino, Hispanic American, or Native American Indian) and why fellowship support is needed.

3. A letter of recommendation written by a person knowledgeable about the applicant's aptitude and interest in survey methodology.

The online registration form, essay, and letter of recommendation are due January 1, 2009. JPSM will evaluate the applications and inform the successful applicants by January 8, 2009. The fellowship covers the registration fee, materials to be distributed during the course and the JPSM

group continental breakfasts, lunches and refreshments. The registration must be done online. The essay and letter of recommendation may be faxed to (734) 764-8263 or emailed to JPSMShort@isr.umich.edu.

JPSM CITATION PROGRAM

The citation programs are built around the JPSM short courses. The JPSM Citation in Introductory Survey Methodology is designed to provide the working professional and interested students with state-of-the-art knowledge about current principles and practices for conducting complex surveys combined with practical skills of day-to-day utility. The JPSM Citation in Introductory Economic Measurement is designed for professional staff requiring a grounding in the principles and practices of economic measurement. Completion of the citation programs involves taking a semester-length JPSM credit-bearing course and eight JPSM short courses, of which four are specified core courses. For information on the Certificate and Citation Programs visit the website at http://www.jpsm.org or call 301-314-7911.

MARRIOTT AT METRO CENTER

775 12th Street NW, Washington, District Of Columbia 20005

Phone: (202) 737-2200 Fax: (202) 347-5886

The hotel is situated adjacent to the DC Metro rail system, with easy access to Reagan National Airport (4.0 mi N), Washington Dulles Airport (25.0 mi E), Baltimore Washington Airport (40.0 mi S) as well as the Amtrak station.

OVERNIGHT ROOMS

Individuals are responsible for making their own overnight room reservations and for payment.

PARKING

Onsite Parking: $30 a day
Parking Garages: Rates range from $13 to $20 a day

METRO CENTER STATION: Red, Blue, Orange Lines (G & 12th Street)

BUS STATION: Union Station (2.0 mi E)

TRAIN STATION: Union Station (1.6 mi E)

INQUIRIES

Questions for this course should be directed to the JPSM Short Course, Institute for Social Research, University of Michigan, 426 Thompson Street, Room 4050, Ann Arbor, MI 48104-2321, Phone: (800) 937-9320, Fax: (734) 764-8263, Email: jpsmshort@isr.umich.edu.

JPSM SHORT COURSES: www.jpsm.org/shortcourses

SPONSOR AFFILIATE LIST: projects.isr.umich.edu/jpsm/info.cfm#sponsors
JPSM HOME PAGE: www.jpsm.org

TAX IDENTIFICATION (University of Michigan): 38-6006309

Primary Funding for JPSM is from the Interagency Council on Statistical Policy.

Employment

As a service to local statisticians, *WSS News* provides notification of employment opportunities and description of those seeking employment here in the Washington, DC, area. Readers are encouraged to take advantage of this feature of the newsletter. The deadline for inserting notices is five (5) weeks before the publication date. Those interested should email or call Anne Peterson, at apeterson@insightpolicyresearch.com or (703) 373-6645.

CLINICAL TRIAL BIOSTATISTICIANS
M.S. and Ph.D. Level Positions

With an opportunity for substantial leadership responsibility in studies of international public health import.

The Biostatistics Center of The George Washington University, founded in 1972, is a leader in the statistical coordination of clinical trials conducted by the National Institutes of Health. We enjoy over $45 million per year of NIH research funding for major studies in cardiovascular disease, diabetes, maternal/fetal medicine, osteoporosis, urology, and the genetic basis for various diseases. The center has a staff of over 100 with 27 biostatisticians/epidemiologists, including 10 faculty. We are recruiting M.S. and Ph.D. level staff to participate in these and future studies. Please visit our web site (below).

Master's Level Research Positions: These positions require a Master's in Biostatistics or Statistics and 1-5 years experience in analysis, supervision of data management and study design for biomedical applications. Good written and oral communication skills, and detailed knowledge of SAS required. Send CV to address below.

Assistant to Full Research Professorial Positions are available immediately to serve as Co-Investigator or Principal Investigator (Project Director) and to provide statistical direction of the design, conduct and analysis of studies and the conduct of methodologic research to meet the projects needs. We are seeking individuals who want to join a highly competent team of academic biostatisticians and epidemiologists; who desire to contribute to the design and analysis of major medical studies, seek substantive scientific and statistical responsibility, enjoy interacting with medical investigators; take pride contributing to the publication of major papers in leading medical journals, and desire to make an impact on the public health. Our faculty also participate in graduate programs in biostatistics, epidemiology and statistics which afford opportunities for teaching at the graduate level. The research projects also provide an environment rich in methodological problems, with opportunities for collaboration with research active Center faculty and graduate students.

Minimum Position Requirements: Doctorate in Biostatistics, Statistics or Epidemiology, or alternatively an M.D. or Ph.D. in Biological Science, Physical Science or Computer Science with a Masters in Biostatistics or Statistics, 1-5 years' experience with clinical trials, especially study design and statistical analysis of study results using SAS, excellent oral and written English communication skills, and supervisory experience.

Application Procedures: Applicants must send a Curriculum Vitae and three letters of reference;

a letter to include a synopsis of their role in collaborative medical research that has led to medical scientific presentation or publication and a statement of career purpose indicating their career goals and how this position can help you achieve those goals; and applicants for Assistant Research Professor positions must send an Official Transcript of graduate coursework leading to the doctoral degree to: Sarah Fowler, Research Professor and Director, The George Washington University Biostatistics Center, 6110 Executive Blvd., Suite 750, Rockville, MD 20852.

HTTP://WWW.BSC.GWU.EDU

Review of applications is ongoing until the positions are filled. Rank/position title and salary commensurate with experience and qualifications. Tuition benefits for employees (including Ph.D. in Statistics, Biostatistics and Epidemiology) and for spouse and dependent children.

All research and regular faculty at the rank of Assistant Professor in Biostatistics or Statistics may apply for the Samuel W. Greenhouse Biostatistics Research Enhancement Award. For a period of 1 year, the award will provide 20% effort for methodological research and a discretionary fund to support professional activities, travel to professional meetings, supplies and equipment. Applicants for the research faculty position may also apply for the Greenhouse Award while their faculty application is being considered. For complete information including Award Application Materials Requirements, please visit our website at: www.bsc.gwu.edu.

The George Washington University is an Equal Opportunity/Affirmative Action employer

Survey Sampling Statistician

WESTAT: AN EMPLOYEE-OWNED RESEARCH CORPORATION

Westat is an employee-owned corporation headquartered in the suburbs of Washington, DC (Rockville, Maryland). We provide statistical consulting and survey research to the agencies of the U.S. Government and to a broad range of business and institutional clients. With a strong technical and managerial staff and a long record of quality research, Westat has become one of the leading survey research and statistical consulting organizations in the United States.

Our company was founded in 1961 by three statisticians. The current staff of more than 1,800 includes over 60 statisticians, as well as research, technical, and administrative staff. In addition, our professional staff is supported by data collection and processing personnel situated locally and in field sites around the country. The work atmosphere is open, progressive, and highly conducive to professional growth.

Our statistical efforts continue to expand in areas such as the environment, energy, health, education, and human resources. Westat statisticians are actively involved in teaching graduate-level courses in statistical methods and survey methodology in collaborative arrangements with area colleges and universities.

We are currently recruiting for the following statistical position:

Survey Sampling Statistician (Job Code WSS/DRM/7001)

Three or more years of relevant experience in sample design and selection, frames development, weighting, imputation, and variance estimation. Must have a master's or doctoral degree in statistics and have excellent writing skills. Coursework in sample survey design is highly desirable.

Westat offers excellent growth opportunities and an outstanding benefits package including life and health insurance, an Employee Stock Ownership Plan (ESOP), a 401(k) plan, flexible spending accounts, professional development, and tuition assistance. For immediate consideration, please send your cover letter, indicating the Westat Job Code, and resume by one of the following methods to:

Job Code is REQUIRED to apply.
Westat • Attn: Resume System • 1650 Research Boulevard • Rockville, MD 20850-3195
Email: resume@westat.com • FAX: (888) 201-1452
Equal Opportunity Employer. www.westat.com

Senoir Scientist, Evaluation Research Methods

RTI International is an independent organization dedicated to conducting innovative and multidisciplinary research that meets its mission to improve the human condition. RTI is currently celebrating 50 years since its original founding by a consortium of North Carolina based research Universities. The Institute has grown into a worldwide staff of more than 4,000 people with a truly global presence. Your work will have an impact that ranges from the single individual to influencing national governments and critical regional policy. Join our distinguished staff in developing innovative research and development, creating wide ranging policy and providing a full spectrum of multidisciplinary services.

Job Description

This position requires a widely recognized researcher with a national reputation in the design and evaluation of randomized social policy studies, including individual and group contexts, expertise with various areas of social policy evaluation and proven business development capabilities in social policy research.

Responsibilities

The desired candidate will be expected to provide substantive and methodological expertise for human services research and have a proven track record of contributing to the design of multiyear evaluation studies. You will be expected to write grants and contract proposals, build on your existing professional networks, and leverage their efforts to expand RTI's impact. Targeted agencies will be the Administration for Children and Families, the Department of Labor, or the Social Security Administration where they require expertise in random assignment evaluation or other policy demonstrations to improve the well-being of low-income communities.

Qualifications

Minimum requirements for this position include superior academic credentials represented by a PhD. within a related area of study. Work experience should include at least 15 years in social sciences/social policy research. Geographic location will be flexible, although the ability to work at an established RTI site is preferable to enhance collaboration and development opportunities with other talented researchers. We have established offices in Washington, DC; Waltham, MA; Atlanta, GA; New York, NY; San Francisco, CA.

Closing Statement

• This position will be funded through a strategic initiative that provides significant salary support as you integrate into our organization.

• RTI strongly supports professional development at all levels, through numerous internal programs that support scholarship. These range from support for publication to sabbaticals.

• Geographic location will be flexible, although the ability to work at an established RTI site is preferable to enhance collaboration and development opportunities with our other talented researchers. In addition to its headquarters in Research Triangle Park, NC, RTI has established offices in Washington, DC; Rockville, MD; Waltham, MA; Atlanta, GA; New York, NY; and San Francisco, CA.

*****For more information, please visit www.rti.org/careers and refer to: Sr Scientist, Evaluation Research Methods (Job ID 11730)*****

We are proud to be an EEO/AA employer M/F/D/V

Senior Statistician, Statistical Services - IMS Health

Location: Plymouth Meeting, PA

Description At IMS, our mission is to help clients enhance the quality of healthcare throughout the world - so more people can live longer, healthier, more productive lives. IMS is the one global source for pharmaceutical market intelligence, providing critical information, analysis and services that drive decisions and shape strategies. More than 7,400+ of the world's most talented professionals - in fields as diverse as consulting, marketing management, sales and client account management, statistics, and software engineering - come together every day at IMS. Working among the best and the brightest in the industry is enriching, mind opening and challenging for those who want to grow and prosper throughout their careers. A world of opportunity awaits you at IMS.

Principal Accountabilities: This position will support advancement of methodologies in IMS' Rx and Sales services including new offerings and contingency modeling for data interruptions. The individual will provide statistical methodology and project management support for commercial deliverables. He or she will work with our global Stats team and support global projects as required. The role requires developing tactical study plans in answer to business questions, performing quantitative research (e.g., building predictive models or estimating variances under complex survey designs), and providing written summaries of study results. He or she will work with other

departments to develop research plans, identifying appropriate data sources and delivery options to meet client information and analyses needs. The position will support development of new applications and methodologies for existing or newly acquired data and will lead design efforts in selecting statistical methodology for use in the development and launch of new products. It is expected this individual will identify new opportunities for value-added analytics.

The ideal candidate is self-motivated and demonstrates consulting, innovative thinking, project planning, attention to detail and critical thinking skills. He or she possesses in-depth knowledge of statistical methodologies applied to large data sets typical of health care data and a working knowledge of survey sampling. Excellent oral and written communication skills. Ability to work under stringent deadlines and be multi-task oriented.

Requirements: Typically requires a Master's degree in Statistics with five to ten years of experience, or a Ph.D. with two to five years of experience and proficiency in statistical programming software, ideally SAS.

Apply online at:
https://sjobs.brassring.com/1033/ASP/TG/cim_jobdetail.asp?partnerid=475&siteid=214&AReq=3576BR&Codes=P-WSS

Washington Statistical Society

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Washington Statistical Society

Holiday Party

Wednesday December 17, 2008

6:00 to 9:00 pm

Finger Foods and Cash Bar

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900 F Street NW, Washington DC

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Wings-Hummus Salad-Pizza-Artichoke Hearts

Featuring Gordon Biersch Lagers

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Or Send Cheque Payable to WSS to: Yves Thibaudeau, 1037 17th St S, Arlington, VA 22202

If you have questions, please contact Yves at (301)-763-1706 or yves.thibaudeau@census.gov