



WSS NEWS

WASHINGTON STATISTICAL SOCIETY

SEMINARS

Title: **Privacy-Utility Paradigm using Synthetic Data**

Date/Time: **November 8, 2012 / 12:30 - 1:30 pm**

Speaker:

Anand N. Vidyashankar, Ph.D.
 Department of Statistics, Volgeneau School of Engineering
 George Mason University

Chair:

Mike Fleming

Location:

Bureau of Labor Statistics Conference Center.
 To be placed on the seminar list 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. Use the Red Line to Union Station.

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Sponsor: WSS Agriculture and Natural Resources

Abstract

Data confidentiality is an important issue that arises in several applications involving privacy and security encompassing areas such as healthcare, social networks, and financial applications. Synthetic data is one of the tools used to address data privacy concerns and differential privacy is a metric to evaluate the quality of privacy determined by a perturbation mechanism. In this talk, we first describe a class of methods for generating synthetic data in high-dimensions and the role of copulas and mixed-effects models. Second, we describe the properties of data generated using the proposed methodology and methods for determining the parameters of the perturbation process accounting for privacy and utility. Third, we describe a robust methodology for inference concerning the parameters of the process and study the properties of these estimators. Finally, we apply our methodology to several data sets and evaluate the trade-off between privacy and utility. Applications to network data will also be presented.

Point of contact: avidyash@gmu.edu

Title: **Some Statistical Issues in Diagnostic Studies with Three Ordinal Disease Stages**

Date/Time: **November 9, 2012/10:00am – 11:00am**

Refreshments will begin at 9:45 am

Speaker: Lili Tian, Ph.D., Associate Professor and Director of Graduate Studies, Department of Biostatistics, University of Buffalo

Location: National Institutes of Health
Warwick Evans Conference Room in Building D on the Medical Campus

Abstract: Receiver-operating characteristic (ROC) curve is a useful tool for assessing the accuracy of a classifier or predictor for diseases with binary classes, e.g., diseased vs. nondiseased, and the area under the ROC curve (AUC) has been widely used as a quantitative index of discriminating ability of a continuous biomarker. In practice, there exist many disease processes (e.g. Alzheimers disease) with three ordinal disease stages, i.e. “non-diseased”, “early stage” and “diseased”. This talk will mainly address two important issues under such a setting: 1) How to combine several markers to increase the diagnostic accuracy; 2) How to estimate the diagnostic ability of a marker for detection of early disease stage. Parametric and nonparametric statistical methods will be presented for both issues. The proposed solutions for these two issues are applied to a real data set from a cohort study of Alzheimer’s disease (AD) from the Washington University Knight Alzheimer’s Disease Research Center.

Website: <http://dbbb.georgetown.edu>

Point of Contact: Please reply to Lindsay Seidenberg (lcb48@georgetown.edu) if you are interested in meeting for 30 minutes with the seminar speaker in the afternoon.

Title: **Adjusting for Nonresponse in the Occupational Employment Statistics Survey**

Date/Time: **November 14, 2012 / 12:30 pm - 2:00 pm**

Speaker: Nicholas Horton, Smith College

Organizer: Dan Liao, WSS Methodology Program Chair

Chair: Dan Liao, WSS Methodology Program Chair

Discussant: Nathaniel Schenker, National Center for Health Statistics

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 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. Use the Red Line to Union Station.

Sponsor: WSS Methodology Program

Abstract: Past research indicates that employment size, industry sector, multi-establishment status, and metropolitan area size, along with important interactions, have a significant impact on an establishment's propensity to respond to the Bureau of Labor Statistics Occupational Employment Statistics survey (OES). Using administrative wage data linked to the sample, we find that these establishment characteristics are related to wages; wage estimates are a major OES outcome variable. In this paper, we investigate the use of the administrative data for imputing missing data due to nonresponse. The multiple imputation method focuses on adjusting the OES wage estimates with this auxiliary data to reduce potential bias.

CONFERENCES AND SYMPOSIUMS

Event: **NIH Biostatistics Symposium**
Date/Time: **November 10, 2012/8:15 am - 5:00 pm**
Location: Natcher Conference Center at the National Institutes of Health
Bethesda, Maryland

Description: Please register soon and consider submitting a poster abstract.

Poster abstract submission deadline is closes on **October 19th**.
Registration closes on **November 5th**.

Please visit conference website to register and/or submit poster abstract.

Invited speakers include:

- Paul Albert, Ph.D. (National Institute of Child Health Development - NICHD)
- Norman Breslow, Ph.D. (University of Washington)
- Ronald Brookmeyer, Ph.D. (UCLA School of Public Health)
- Raymond Carroll, Ph.D. (Texas A&M University)
- Joseph Costantino, DrPH (University of Pittsburgh)
- Kathy Cronin, Ph.D. (Division of Cancer Control & Population Sciences - DCCPS)
- Victor De Gruttola, Sc.D. (Harvard University, School of Public Health)
- Ruth Etzioni, Ph.D. (Fred Hutchinson Cancer Research Center - FHCRC)
- Nancy Geller, Ph.D. (National Heart, Lung, & Blood Institute - NHLBI)
- Lisa McShane, Ph.D. (NCI, Division of Cancer Treatment & Diagnosis)
- Ross Prentice, Ph.D. (University of Washington)
- Lee-Jen Wei, Ph.D. (Harvard University, School of Public Health)
- Clarice Weinberg, Ph.D. (National Institute of Environmental Health Sciences - NIEHS)

Website: <http://ncifrederick.cancer.gov/events/BiomedicalResearch/>



Federal Committee on Statistical Methodology (FCSM) Statistical Policy Seminar

Collaborating to Achieve Innovation and Efficiency: Advances and Opportunities

December 4-5, 2012

Washington Convention Center, Washington, DC

The Eleventh in a Series of Seminars Hosted by COPAFS
(The Council of Professional Associations on Federal Statistics)

Participants will include statisticians, economists, and managers, as well as other professionals in the broader statistical community who share an interest in keeping current on issues related to federal data.

Support Provided by:

Agency for Healthcare Research and Quality * Bureau of Economic Analysis * Bureau of Justice Statistics * Bureau of Labor Statistics * Economic Research Service * Energy Information Administration * Environmental Protection Agency * National Agricultural Statistics Service * National Center for Education Statistics * National Center for Health Statistics * Office of Research, Evaluation, and Statistics of the Social Security Administration * Statistics of Income Division of the Internal Revenue Service * Science Resources Statistics/National Science Foundation * U.S. Census Bureau

Keynote Address: Dr. Robert M. Groves, Georgetown University

Topics Will Include:

- New Perspectives on the Quality of Administrative Data
- Developing Statistical Policy to Facilitate Improved Access to Administrative Data for Statistical Programs
- Program and Policy Issues Associated with Integrating Adaptive Design in Federal Surveys
- New Ideas in Dissemination
- Changing Organizational Structures to Achieve Innovation and Efficiencies
- Dueling Official Statistics: What Would it Take to Call a Truce?
- Development and Policy-Relevant Applications of Small Domain Estimates
- Does Cloud Computing Offer a Viable Option of the Control of Statistical Data: How Safe Are Clouds?
- Protecting Confidential Statistical Data: The Impact of Government Wide Cybersecurity Initiatives

- How Do Stakeholders React to Revisions and What Can Agencies do to Help to Clarify Their Use
- Enhancements in Federal Data Resources to Inform the Affordable Care Act
- New Directions in Measuring Race and Ethnicity: Implications from the 2010 Census Alternative Questionnaire Experiment

Program and Registration Information: Available on the COPAFS website at:
<http://www.copafs.org/>

Cost: \$195 per person

For further information, contact the COPAFS office at 703-836-0404.

SHORT COURSES

Short Course Sponsored by JPSM

Course and registration information for all JPSM-sponsored short courses listed below are available at www.jpsm.org/shortcourses.

Introduction to Project Management for Surveys

November 8-9, 2012

Marriott Inn and Conference Center, Adelphi MD

Presented by Michael F. Weeks

Payment and Registration Due by October 25, 2012

https://projects.isr.umich.edu/jpsm/html_content.cfm?CourseID=110812

Introduction to Item Response Theory (IRT) Modeling and Applications

December 11, 2012

Washington Marriott at Metro Center, Washington, DC

Presented by Bryce B. Reeve

Payment and Registration Due by November 27, 2012

https://projects.isr.umich.edu/jpsm/html_content.cfm?CourseID=121112

Introduction to Survey Sampling

December 18-19, 2012

Bureau of Labor Statistics Conference Center, Washington, DC

Presented by Colm O'Muircheartaigh and James M. Lepkowski

Payment and Registration Due by December 4, 2012

https://projects.isr.umich.edu/jpsm/html_content.cfm?CourseID=121812

Leveraging Mobile & Social Technologies for Data Collection

January 30-31, 2013

Crystal Gateway Marriott, Arlington, VA

Presented by Michael W. Link

Payment and Registration Due by January 16, 2013

https://projects.isr.umich.edu/jpsm/html_content.cfm?CourseID=013013

Introduction to Survey Estimation

February 26-27, 2013

Marriott Inn and Conference Center, Adelphi, MD

Presented by David Morganstein and Sunghee Lee

Payment and Registration Due by February 12, 2013

https://projects.isr.umich.edu/jpsm/html_content.cfm?CourseID=022613

Writing Questions for Surveys

March 25-26, 2013

Key Bridge Marriott, Arlington, VA

Presented by Nora Cate Schaeffer

Payment and Registration Due by March 11, 2013

https://projects.isr.umich.edu/jpsm/html_content.cfm?CourseID=032513

Picture; at an Exhibition: The Visual Display of Quantitative Phenomena

April 8, 2013

L'Enfant Plaza Hotel, Washington, DC

Presented by Howard Wainer

Payment and Registration Due by March 25, 2013

https://projects.isr.umich.edu/jpsm/html_content.cfm?CourseID=040813

Statistical Methods for Evaluating Survey Questions

April 22-23, 2013

L'Enfant Plaza Hotel, Washington, DC

Presented by Paul P. Biemer

Payment and Registration Due by April 8, 2013

https://projects.isr.umich.edu/jpsm/html_content.cfm?CourseID=042213

Primary Funding for JP&M is from the Interagency Council on Statistical Policy

FELLOWSHIP/EMPLOYMENT OPPORTUNITIES

Associate Service Fellowship in Data Linkage

Position and Organization

The Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS), located in Hyattsville, Maryland, is seeking an Associate Service Fellow to work with the Special Projects Branch (SPB) on data linkage. NCHS is the principal health statistics agency in the United States. As one of the 10 centers and institutes that constitute CDC, NCHS' mission is to compile accurate, relevant, and timely statistical information to guide actions and policies that improve the health of the American people. Within NCHS, the Office of Analysis and Epidemiology (OAE) conducts developmental and evaluation research and analysis in the fields of epidemiology, health status, health services utilization, health promotion, and health economics. Within OAE, SPB coordinates the center's data integration activities and provides support and technical assistance to users of linked data files. For more information about data linkage activities at NCHS, visit

http://www.cdc.gov/nchs/data_access/data_linkage_activities.htm.

Fellowship Overview

As a member of the Special Projects Branch, the Associate Service Fellow will contribute to multiple aspects of planning and implementing record linkages between NCHS surveys and administrative records, such as vital statistics and other agencies' records. The record linkage program is designed to maximize the scientific value of the center's population-based surveys. Linked data files enable researchers to examine factors that influence disability, chronic disease, health care utilization, morbidity, and mortality. In collaboration with other members of SPB and NCHS, the Associate Service Fellow will prepare survey data for data linkages, prepare linked data files for users, evaluate linked data quality, assist with internal and external data use agreements for survey and administrative data, assist with documentation for linked data files, and work with subject-matter and methodological analysts to conduct specialized studies using linked data for NCHS reports and scientific journals.

Qualifications

This fellowship is open to all citizens of the United States or legal permanent residents with a work authorization. Applicants must have successfully completed a master's degree or higher in statistics, biostatistics, computer science, epidemiology, or a related field (e.g., medicine, sociology, demography, economics, or health sciences). Experience or applied coursework in computing and in applying statistical techniques to data is required. Strong skills in using SAS are expected. Experience with STATA, R, SUDAAN, or other statistical software for complex data is desirable. Strong speaking, writing, and interpersonal skills are also highly desirable.

Terms of Appointment

The Associate Service Fellow will be offered an initial 24-month appointment, with potential for extension up to 5 years. A starting date will be determined by mutual agreement. An initial salary range between \$51,630 and \$74,872 will be offered based on education and experience. Salary increases will be commensurate with performance. Service Fellows are eligible for annual and sick leave, Thrift Savings 401(k)-equivalent, health and life insurance, and a flexible work schedule. The Service Fellow will have the option of free onsite parking or a public transportation subsidy. The local subway station is within walking distance.

Application Process

Applications will be accepted through **November 30, 2012**. Interested applicants should submit a cover letter, their curriculum vitae, official transcripts of all graduate and undergraduate credits, and two reference letters (on letterhead with original signature) to Jennifer Parker, Chief, Special Projects Branch, at the mailing address below. Inquiries or questions regarding this fellowship can be directed to Dr. Parker at jdarker@cdc.gov.

Mailing address

Jennifer D. Parker, Chief
Special Projects Branch
Office of Analysis and Epidemiology
National Center for Health Statistics
3311 Toledo Road, Room 6418
Hyattsville, MD 20782

http://www.cdc.gov/nchs/about/fellowship_data_linkage.htm

CDC/NCHS is an equal opportunity employer. Qualified applicants will receive consideration without regard to race, creed, color, age, sex, national origin, physical or mental disability, or sexual orientation.



PricewaterhouseCoopers LLP
NATIONAL ECONOMICS AND STATISTICS GROUP

PRACTICE UNIT DESCRIPTION:

The PwC National Economics and Statistics (NES) group, a Washington D.C.-based center of excellence, provides advanced economic and statistical consulting for tax, advisory, and assurance clients. NES works with leading companies, trade associations, and government agencies on tax compliance, policy, and business issues. Services include statistical sampling; revenue and budget analyses of legislative proposals; economic impact analyses; and analytics.

JOB DESCRIPTION:

This is an entry-level position in Washington, DC. The analyst primarily would work with other PwC professionals in performing statistical analyses of tax return data using standard software packages (such as SAS). Other responsibilities would include conducting economic research, building computer models, and writing reports.

QUALIFICATION REQUIREMENTS:

- Strong computer skills, including familiarity with database and statistical processing software and computer programming concepts.
- Ability to identify creative solutions to complex statistical, data and modeling issues, including missing data, voluminous data sources, and disparate data sources.
- Excellent analytical and written/verbal communication skills.
- Capacity to prioritize multiple tasks in a team environment and effectively meet deadlines.
- A bachelor's degree in a quantitative discipline (statistics, mathematics, economics, etc.) with course work in statistics and economics. Additional course work in computer programming is desirable.
- Prior experience with tax issues is desirable.

More information is available on NES at www.pwc.com/us/nes.

Interested applicants should submit a resume, transcript, and writing sample to:

Brandon Diehm
PricewaterhouseCoopers LLP
1301 K Street, NW, Suite 800W
Washington, DC 20005
BRANDON.J.DIEHM@US.PWC.COM

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FROM THE WSS NEWS EDITOR

Items for publication in the **December, 2012** issue of WSS NEWS will be accepted thru the **15th** of the preceding month.

Email items to wss.editor@gmail.com.

The authors are responsible for verifying the contents of their submissions. Submissions requiring extensive revisions on length and/or contents will be returned.

Please submit all materials as an attachment in **MS WORD** or **plain text**. Submissions in any other format (e.g., in an email) will be returned.

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