



WASHINGTON
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SOCIETY

WSS NEWS

MARCH 1993

More Short Courses

This has been a banner year for the Washington Statistical Society short courses! This Spring the WSS brings you three more short courses for your learning enjoyment:

- ***Resampling Methods for Complex Surveys***, by J.N.K. Rao, Carleton University, will be held Monday, March 1, 1993, 8:00 AM-4:00 PM at the Crystal Ballroom, Hyatt Regency Bethesda, 1 Bethesda Metro Center. Limited space may still be available. For information, call Glenn White at (202) 874-1114 (W) or (301) 952-1507 (H).
- ***Self-Administered/Mail Surveys***, by Don Dillman, Washington State University, will be held Wednesday and Thursday, April 21-22, 1993, at the University of Maryland Conference Center, College Park, MD. This short course is co-sponsored with the Joint University of Maryland-University of Michigan Program in Survey Methodology. See the enclosed flyer for full details.
- ***Exploratory and Robust Data Analysis***, by David Hoaglin, Harvard University, and Andrew Siegel, University of Washington, will be held Thursday and Friday, April 29-30, 1993, in the Jefferson Auditorium, South USDA Building, 14th Street and Independence Avenue, Washington, DC. This short course is co-sponsored with the National Agricultural Statistics Service, U.S. Department of Agriculture. See the enclosed flyer for full details.

WSS SEMINARS

(All events are open to any interested persons.)

MARCH

1	Mon.	Short Course: Resampling Methods for Complex Surveys
9	Tues.	Panel on Agricultural Statistics in China
11	Thurs.	Most Likely Probability Curve
12	Fri.	Cognitive Foundations of Questioning
16	Tues.	Estimation in Presidential Elections with a Significant Third Candidate
17	Wed.	Modelling the Timing of Behavioral Phenomena
18	Thurs.	Quality Improvement Within the IRS: A Case Study
30	Tues.	The Underlying Methodology of the Estate Multiplier Techniques, Recent Improvements and Estimates for 1989
31	Wed.	Poisson Regression, Calibration, and Incomplete Data, with an Application to Masonry Deterioration in Building Structures

Announcements

Census Bureau's 1993 Annual Research Conference

The Census Bureau's 1993 Annual Research Conference (ARC 1993) will be held March 21-24, 1993, at the Doubletree Hotel, National Airport in Arlington, VA (three blocks from the Pentagon City Metro Station; underground parking available). To inquire if space is still available, contact Maxine Anderson-Brown, ARC Conference Coordinator, Office of the Director, Bureau of the Census, Washington, DC 20233; phone: (301) 763-1150.

Conference on Extreme Value Theory

The Statistical Engineering Division of the National Institute of Standards and Technology (NIST) joins Temple University in co-sponsoring an international conference on Extreme Value Theory and its Applications. It will be held at NIST in Green Auditorium, Sunday, May 2 through Friday, May 7, 1993. (Sessions will run from 9:00 AM - 5:00 PM Mon.-Fri.)

Extreme value theory uses probability and statistics to estimate outside limits which control design and policy decisions in a large variety of technological and scientific fields. The Conference will promote the transfer of advances made in the theory of extreme values to applications, and promote an exchange of ideas among researchers from a broad spectrum of centers of technical work. It will include multiple sessions on the theory of extremes and on applications in the areas of materials sciences, civil engineering/infrastructure and environmental sciences. Registration fee is \$325. Registrants will receive morning/afternoon coffee breaks and lunch each day, a Sunday evening

reception, Thursday evening banquet, and a copy of the Abstracted Conference Proceedings. For further information contact Stefan Leigh, ADMIN A337, NIST, Gaithersburg, MD 20899; phone: (301) 975-2856; Fax: (301) 990-4127; e-mail: leigh@tiber.nist.gov.

Annenberg Videotapes Available

The Washington Statistical Society has begun making available the Annenberg videotapes "Against All Odds." Each tape contains two programs -- each approximately 30 minutes long. There is a total of 26 programs (13 tapes) with topics ranging from descriptive to inferential statistics. While the programs are informative even for experienced statisticians, those with limited or no statistical background will likely find the tapes to be of the greatest value.

As various Federal agencies and private organizations learn of the tapes, the requests for them have increased. Therefore, in order to accommodate all requests as efficiently as possible, the following procedures have been implemented:

- First, all requests, either for information about the tapes or actual tapes, should be faxed to: Ed Milton; US DOT/NHTSA, NTS-33; Fax: (202) 366-7149. The fax should include the name of the person and organization, a daytime telephone number, and the date(s) tapes are desired.
- Second, tapes cannot be loaned for more than two weeks. (This may have to be shortened to one week if there are several requests for the same tapes.)

(Continued on page 9.)

Program Abstracts

Topic: Panel Discussion: Agricultural Statistics in China

Panelists: Xu Zhiquan, Li Wenhai, Tan Wenping, Zheng Zhihao, and Zhao Qinghe, Food and Agricultural Statistics Center, People's Republic of China

Discussant: Fred Baker, National Agricultural Statistics Service

Chair: Gaylord Worden, Bureau of the Census

Date/Time: Tuesday, March 9, 1993, 12:30 - 2:00 PM

Location: USDA South Building, Room 3109, 1400 Independence Avenue, SW, Washington, DC (Blue/Orange Lines -- Smithsonian; exit toward Independence Avenue). Enter building at corner of 12th and Independence Ave. Call Carol House for additional information on (202) 720-3895.

Sponsor: Agricultural and Natural Resources Section

Abstract: The integration of current sample surveys and an agricultural census is a goal of the Food and Agricultural Statistics Center as it undertakes the training, the research and the pilot surveys leading toward a national census of agriculture. The history, purpose, and organizational structure of agricultural statistics in China will be described, with an overview of why and how current agricultural statistics are obtained and used. The methodology for data collection, processing and analysis leading up to dissemination and publishing of the data will be presented.

* * * * *

Topic: Most Likely Probability Curve

Speaker: John McCray, The College of William and Mary

Chair: Jim Norman, National Heart, Lung and Blood Institute

Date/Time: Thursday, March 11, 1993, 2:00 - 3:30 PM

Location: National Heart, Lung and Blood Institute, Federal Bldg., Room B-119, 7550 Wisconsin Avenue, Bethesda, MD. (Red Line -- Bethesda; go north approx. 1/2 block)

Program Abstracts (cont'd)

Most Likely Probability Curve (cont'd)

Sponsor: Public Health and Biostatistics Section

Abstract: This talk presents a non-parametric Bayesian model for generating a complete robust posterior probability curve, Most Likely Probability Curve (MLPC), and a most likely survival curve. Simply stated, the proposed model substitutes a most likely likelihood function for the unknown likelihood function in Bayes' Theorem. The benefits of this approach appear to be most significant when sampling from skewed populations. First, the most likely likelihood function is sensitive to skewed sample data. If the sample observations are skewed, the most likely likelihood curve will be skewed. Second, no assumptions about the shape or parameters of the most likely likelihood are necessary. Third, it is impossible to have an insupportable most likely likelihood function defined over an unrealistic domain (e.g., negative mean survival times). Any prior probability function might be preferred for clinical use. The model can adjust for "unrepresentative" sample data. A PC software package is provided.

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Topic: Cognitive Foundations of Questioning

Speaker: Arthur C. Graesser, Memphis State University

Chair: Douglas Herrmann, National Center for Health Statistics

Date/Time: Friday, March 12, 1993, 10:00 - 11:30 AM

Location: National Center for Health Statistics, Auditorium, Presidential Building, 11th Floor, 6525 Belcrest Road, Hyattsville, MD

Sponsor: Office of Research and Methodology, National Center for Health Statistics and the Data Collection Methods Section, Washington Statistical Society

Abstract: The Colloquium reports a psychological model of question answering (called QUEST) and a model of question asking for questions that pertain to previously established knowledge. After presenting the key components of these models, Dr. Graesser will discuss how the models can guide methods of collecting verbal protocols, knowledge engineering, interviewing, and questionnaire design.

Program Abstracts (cont'd)

Topic: Estimation in Presidential Elections with a Significant Third Candidate

Speakers: Kathleen A. Frankovic, CBS News
Warren J. Mitofsky, Voter Research and Surveys

Chair: Stanley Presser, University of Maryland

Date/Time: Tuesday, March 16, 1993, 12:30 - 2:00 PM

Location: Postal Square Building, BLS Conference Center, Rooms 1 and 2, 2 Massachusetts Avenue, NE, Washington, DC. (Red Line -- Union Station) Enter at First Street; Federal government employees show ID; non-government employees call Ed Riddick at (202) 606-7376 by March 12, to add name to visitors' list.

Sponsor: Data Collection Methods Section

Abstract: Estimating the outcome of a presidential election is difficult enough when only two major candidates are involved. The problems are multiplied once a third significant candidate enters the picture. In pre-election polling, decisions about question wording and the allocation of undecideds become even more critical. Election-day estimations also are affected. Information from previous presidential elections may be less useful, and determining order of finish is more difficult. Frankovic will discuss the difficulties associated with pre-election polling, and Mitofsky will address the problems in election-day estimation.

* * * * *

Topic: Modelling the Timing of Behavioral Phenomena

Speaker: Pamela K. Lattimore, National Institute of Justice

Chair: Michael A. Greene, The American University

Date/Time: Wednesday, March 17, 1993, 12:30 - 2:00 PM

Location: BLS Cognitive Laboratory, Postal Square Bldg., Room 2990, Conference Room 1, 2nd Floor, 2 Massachusetts Avenue, NE, Washington, DC. (Red Line -- Union Station) Federal government employees show ID; non-government employees call Ed Riddick at (202) 606-7376 by March 12, to add name to visitors' list.

Program Abstracts (cont'd)

Modelling the Timing of Behavioral Phenomena (cont'd)

Sponsor: Social and Demographic Section

Abstract: Survival models, which have found much use in drug effectiveness studies and engineering reliability applications, are now also being used to characterize the timing of human behavioral phenomena. A major departure in applying these models to behavioral phenomena is that models must be modified to reflect the idea that some of the observations would not be failures even with extremely long time on test. This presentation addresses two methodological approaches for accommodating survivors. In the first, the survival models assume the data reflect the mixture of two different populations, namely those who will eventually fail and those who will not. A second approach assumes a single population with a hazard model that is modified to permit some ultimate survival of some fraction of the individuals. The two approaches are compared with respect to conceptual, practical and interpretative dimensions. Results are compared using data where the failure event is defined as return to prison.

* * * * *

Topic: Quality Improvement Within the IRS: A Case Study

Speaker: Glenn D. White, Jr., Internal Revenue Service

Chair: Sid Schwartz, U.S. Postal Service

Date/Time: Thursday, March 18, 1993, 12:30 - 2:00 PM

Location: BLS Cognitive Laboratory, Postal Square Bldg., Room 2990, Conference Room 1, 2 Massachusetts Avenue, NE, Washington, DC. (Red Line -- Union Station) Federal government employees show ID; non-government employees call Ed Riddick at (202) 606-7376 by March 15, to add name to visitors' list.

Sponsor: Quality Assurance Section

Abstract: Despite a growing body of literature on quality improvement and applications, people working in office situations, specifically government service, still have a hard time finding examples of quality efforts that pertain to their situation. This presentation addresses the problems encountered when a team within a statistical division of the IRS attempts to satisfy its operational, non-statistical customers. The presentation describes the systematic approach for developing tools and improving the communication efforts. Two specific projects will be highlighted: the Quality Management Information System used in the IRS District Offices, and the Telephone Routing Interactive System, being developed by the IRS for automated routing of taxpayers' calls.

Program Abstracts (cont'd)

- Topic:** The Underlying Methodology of the Estate Multiplier Techniques, Recent Improvements and Estimates for 1989
- Speakers:** Barry W. Johnson and R. Louise Woodburn, Internal Revenue Service
- Chair:** Arthur Kennickell, Federal Reserve Board
- Date/Time:** Tuesday, March 30, 1993, 12:30 - 2:00 PM
- Location:** Martin Building, Room 3219, Federal Reserve Board, 20th and C Streets, NW, Washington, DC (Red Line -- Farragut North or Blue/Orange Line -- Farragut West) Please call Sheila Griffin at (202) 452-5549 by March 25 to gain admission.
- Sponsor:** Economics Section
- Abstract:** Estimating personal wealth is an area of increasing interest, particularly in these economically uncertain times. The concentration of wealth in the United States and the characteristics of the very wealthy, and of their portfolios, have important implications for law makers, social planners, and marketers. There are, however, few sources of data from which to derive these important estimates.

The Internal Revenue Service's Statistics of Income Division produces estimates of wealth for America's most wealthy individuals from Federal estate tax return data, using the estate multiplier technique. This talk will detail the underlying methodology of this technique, from the properties of the estate tax sample to improvements made using information on mortality differentials between the wealthy and the general population. Additionally, the variance contributions of each step and the effects of perturbing the underlying assumptions will be discussed. We will present wealth estimates for 1989 and compare our results with estimates from the Federal Reserve Board's Survey of Consumer Finances. Finally, suggestions for future research and improvements in this area will be discussed.



Special Volunteer Needed

WSS has received a request for a volunteer to assist a blind graduate student with his course in statistics. The student is working on a Masters degree in Social Work at Howard University and is having difficulty with a statistics course on Data Interpretation. If you can offer assistance, contact Judy Hummel at (301) 681-9095.

Program Abstracts (cont'd)

- Topic:** Poisson Regression, Calibration, and Incomplete Data, with an Application to Masonry Deterioration in Building Structures
- Speaker:** Alan J. Izenman, Temple University and the National Science Foundation
- Chair:** Joseph L. Gastwirth, George Washington University
- Date/Time:** Wednesday, March 31, 1993, 12:30 - 2:00 PM
- Location:** Staughton Hall, Room 301, George Washington University, 707 22nd Street, NW, Washington, DC. (Blue/Orange Lines -- Foggy Bottom)
- Sponsor:** Methodology Section, Washington Statistical Society and Operations Research Department, George Washington University
- Abstract:** Construction materials used in building structures, such as masonry, wood, reinforced concrete, etc., deteriorate over time due to many factors. including poor design, defective materials or manufacture, and poor workmanship. The statistical problem of interest in this talk is concerned with estimating masonry deterioration and determining causal factors implicated in the damage.

In this particular study, damage was assessed by means of three different and independent "condition assessment" surveys. In one of those surveys, incomplete data were unavoidable, but were estimated where appropriate by a Poisson regression modelling of the relationship between damage assessments and a number of qualitative factors followed by the EM algorithm. Calibration techniques were then used to adjust the damage estimates for two of the three survey results by calibrating each of their results with those obtained from the third (much smaller, but more precise) survey. Confidence limits were also obtained for the true overall damage rate for the entire building structure.

*** * * Note from WSS NEWS Editors * * ***

Items for publication in the April 1993 *WSS NEWS* should be submitted no later than **February 23, 1993**. Fax items to:

Bettye Jamerson or Wendy Alvey
Fax: (202) 874-0922

Announcements (cont'd)

QL Update

On October 26, 1992, several QL members visited Terraset Elementary School in Reston, Virginia to discuss the use of computers in the workplace, at the request of school educators there. The presenters were Sharon Bobbitt, John Gaudiosi, Jill Montaquila, Terry O'Connor, and Tamara Zimmerman.

Each member visited with a 5th and 6th grade class. Zimmerman and Montquila did a slide presentation and found it to be very helpful in motivating discussion. They discussed some of the ways in which statisticians use computers at work and also some of the ways computers are used in "everyday life." Gaudiosi talked about the use of computers in sampling applications and in data analysis, particularly the use of graphics packages and word processors. O'Connor focussed on how statisticians at the National Agricultural Statistics Service utilize the computers in their work: developing and printing questionnaires, selecting samples of names to be contacted, charts and graphs, and publishing results.

Throughout the presentations, the presenters were able to elicit participation from students. The students appeared to be "computer literate" and came up with many computer applications to their own school work. Terraset has a computer laboratory with several Macintoshes and the students are regularly given computer assignments.

According to the volunteers, the experience was mutually beneficial to both the students and the presenters. They encourage professionals in the statistical community to take advantage of opportunities to share knowledge and experience.

They found that the students learn quickly and truly appreciate their sharing experiences.

ASA Short Courses Hit the Road

In December, the WSS and the American Statistical Association's (ASA) Section on Survey Research Methods co-sponsored a short course on Applied Survey Data Analysis Methods, by Rick Williams, Research Triangle Institute. This month, ASA's Continuing Education Program and the Boston Chapter will co-sponsor a 2-day course on Some Medical Uses of Statistics, featuring John C. Bailar III, McGill University and the Department of Health and Human Services, and Frederick Mosteller, Harvard University. The course, to be held March 11-12, 1993, at the Sheraton Hotel and Towers, Boston, MA, delineates the state of the art of statistical applications in clinical research. For further information, contact Katherine Rowe, ASA, 1429 Duke Street, Alexandria, VA 22314-3402; phone: (703) 684-1221; FAX: (703) 684-2037.

Interface '93

The Interface Foundation of North America, a nonprofit educational corporation, will sponsor the 25th Symposium on the Interface: Computing Science and Statistics in San Diego, CA on April 14-17, 1993. The theme of the conference is Statistical Applications and Expanding Computer Capabilities. David Brillinger is the keynote speaker. Invited sessions will cover such diverse topics as agricultural applications, biopharmaceutical maps and graphics, geosciences, medical applications, networked information systems, statistical user interface design and time series analysis. For information, contact Michael Tarter, 779 University Hall,

Announcements (cont'd)

Interface '93 (cont'd)

University of California, Berkeley, CA 94720;
phone:(510)642-4601;e-mail:tarter@stat.
Berkeley.EDU.

Shiskin Nominations Due

Reminder: Nominations for the annual Julius Shiskin Award for Economic Statistics are due April 1, 1993. The award, co-sponsored by the WSS and the National Association of Business Economists, is given in recognition of unusually original and important contributions in the development of economic statistics or in the use of economic statistics in interpreting the economy. Contributions can be in statistical research, development of statistical tools, application of computer techniques, use of economic statistical programs, management of statistical programs or in development of public understanding of measurement issues. Either groups or individuals in the public or private sector can be nominated. For nomination forms, write to the Julius Shiskin Award Committee, American Statistical Association, 1429 Duke Street, Alexandria, VA 22314-3402.

Tentative Schedule of SIGSTAT Meetings

SIGSTAT is the Joint Special Interest Group in Statistics for the Capital PC User Group and WORMSC (Washington Operations Research/Management Science Council). The tentative schedule of events for the next two months is as follows:

3/10/93: Mathematica - Part 1.--An Introduction to the Windows version of this leading symbolic math package.

4/14/93: Mathematica - Part 2.--A look at the impressive graphics capabilities of Mathematica.

All meetings are scheduled for Wednesdays from 12:30 - 1:30 PM in Room B-14, 1301 New York Ave., NW, Washington, DC. (The building is located midway between the Metro Center and McPherson Square Metro stops.) If this is your first SIGSTAT meeting, call Charlie Hallahan, (202) 219-0507, to gain entry into the building.

Employment Column

As a service to local statisticians, the **Washington Statistical Society News** provides notification of employment opportunities and descriptions 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 write to: Bill Arends, USDA-NASS, Room 4133 South Building, Washington, DC 20250-2000. Contact Mr. Arends at (202) 720-6812.

Statistician/Biostatistician

The Division of Statistics and Research Methodology, Agency for Health Care Policy and Research has an opening at its Rockville, Maryland office for a survey statistician or biostatistician. The Division is involved in research projects related to survey research, sample design, weights development, data analysis and variance estimation for complex surveys and methodologies to reduce measurement error. Responsibilities would include conducting independent research, assisting in the development of public-use files, and providing statistical consulting for a wide variety of statisti-

Employment Column (cont'd)

Statistician/Biostatistician (cont'd)

cal, methodological, and econometric studies in health services research. Candidates should have an M.S. degree in statistics or in a closely allied field. Interested persons should send SF-171 or C.V. to: Dr. Nancy Mathiowetz, Division of Statistics and Research Methodology, Executive Office Center, 2101 East Jefferson Street, Rockville, MD 20852. EOE

Statistician

The Environmental Protection Agency have several career positions (GS-7-13) available immediately. Positions deal with problems related to lead, asbestos, and other toxic substances. Primary duties would include design of human exposure studies and surveys, oversight of field data collection efforts, design of quality assurance programs, statistical data analysis and interpretation, presentation of study results, and analysis of epidemiological data. Qualifications include knowledge of basic statistical methods and theory. Knowledge of chemistry, biology or other environmentally related disciplines is desirable, as is familiarity with PC-based statistical systems. Graduates with 3.5 GPA for Bachelors degree can be hired immediately.

Send applications (SF-171 or resume) to Philip E. Robinson, Chief, Statistical Operations Section, Technical Programs Branch (TS-798), Office of Pollution Prevention and Toxics, USEPA, 401 M St., SW, Washington, DC 20460; phone (202) 260-3910. EOE

Senior Methodologist/Statistician

Management Recruiters of Washington, DC, Inc. (MRI) is recruiting a senior methodologist/

statistician on behalf of a client who is one of the nation's top 15 market research suppliers located in the Mid-Atlantic region. Qualified candidates will have experience in providing demographic incidence estimates as well as sample balancing and complex weighting schemes. Person must be comfortable presenting innovative study and sample designs to prospective clients. Supervision is involved. Salary commensurate with experience. Qualified/interested candidates should send resume to Frank Black at MRI, 1660 L Street, NW, Suite 606, Washington, DC 20036; phone (202) 785-3000.

Obituary

Arthur McDowell, a retired official of the National Center for Health Statistics, died on January 19, 1993. He was 80 years old.

McDowell was born in Sheakleyville, PA. He graduated from the University of Akron. He moved to Washington, DC in 1936 and began his Federal career as a fingerprint clerk with the FBI. During World War II, he served in the Army. After the war, McDowell went to work as Chief of the Medical Records Branch in the Office of the Surgeon General of the Army. Later, he became Chief of its Statistical Analysis Branch, and he held that position until he joined the Atomic Bomb Casualty Commission. From 1961 until he retired in 1977, McDowell was Director of the Division of Health Examination Statistics at the National Center for Health Statistics. Since then, he was a consultant on health statistics here and abroad.

McDowell was a Fellow of the American Public Health Association and a member of the American Statistical Association, the Washington Statistical Society, the International Association of Survey Statisticians and the American Association for the Advancement of Science.

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Dean Follmann (301) 496-5905

Data Collection Methods

Jared Jobe (301) 436-7111
Clyde Tucker (202) 606-7382

Employment

Bill Arends (202) 720-6812

WSS NEWS Editors

Wendy Alvey (202) 874-0455
Bettye Jamerson (202) 874-0453

Membership

Stephanie Shipp (202) 272-5060
Antoinette Martin (202) 254-5409
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