



WASHINGTON  
STATISTICAL  
SOCIETY

# WSS NEWS

December 1995

## NOMINATIONS SOUGHT FOR SHISKIN AWARD

Nominations are invited for the annual Julius Shiskin Award for Economic Statistics. The award, established in 1979 by the Washington Statistical Society and co-sponsored by 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. The contributions could be in statistical research, in the development of statistical tools, in the application of computer techniques, in the use of economic statistical programs, in the management of statistical programs, or in developing public understanding of measurement issues, to all of which Mr. Shiskin contributed. Either individuals or groups in the public or private sector can be nominated.

The award will be presented with an honorarium of \$750 at the Washington Statistical Society Annual Dinner in June 1996. A nomination form may be obtained by writing to the Julius Shiskin Award Committee, American Statistical Association, 1429 Duke Street, Alexandria, VA 22314-3402. **Completed nominations must be received by April 1, 1996.**

Fritz Scheuren won the 1995 Shiskin Award for breaking new ground in the construction of micro economic files, as well as the statistical uses of administrative data for economic research.

Previous winners include: Richard D. Allen for his contributions to the application of statistics to agricultural economics, Joel Popkin for his contributions to the development of price indexes and other gauges of inflationary pressures, Barbara Bailar for her contributions to modernizing the Census Bureau's statistical programs, Allen H. Young for his leadership in forging statistical tools that contribute substantially to the ability to analyze the U.S. economy, the late Stephen Taylor for his work in developing the U.S. Flow of Funds Accounts, and Carol A. Carson for her leadership in to the development of the revised U.S. System of National Accounts.

For further information, contact Dr. Howard Hogan, Julius Shiskin Award Committee Secretary, Services Division, U.S. Bureau of the Census, Room 2641-3, Washington, DC 20233-6500, call at (301) 457-2665, or e-mail at [hhogan@ccmail.census.gov](mailto:hhogan@ccmail.census.gov).

<b>WSS Seminars</b>	
(All events are open to any interested persons)	
<b>December</b>	
6    Wed.	Using Mixed-Effects Modeling to Aid the Sample Design Process
7    Thur.	The Federal Committee on Statistical Methodology (FCSM): Responding to the Needs of the Federal Statistical Community, 1975 to the Future
11   Mon.	Optimal Experimental Design for Diagnosis of Complex Systems
13   Wed.	Parameter Estimation in Cox Proportional Hazards Models with Covariate Measurement Errors
18   Mon.	The Commerce Department-Wide Customer Satisfaction Survey: From Start to Finish

## Announcements

### Deck the Halls with...WSS'ers!

Come join in the fun with other WSS members at this year's Holiday Party! The party, which will be held at Bombay Palace Restaurant December 13, will feature good food, fun, and festivities. Invite your colleagues to join in the fun, and your firm, agency, or university may win the coveted "Who Parties the Hardest?" award! Please see the enclosed flyer for more details about the party. Hope to see you there!

### Federal Statistical Agency Reorganization Legislation

ASA, while not having endorsed any reorganization plan, has offered to testify when hearings are held (as yet unknown). ASA is seeking opinions to serve as a basis for areas on which they might wish to testify. WSS members should note that the November issue of Amstat News will have an article about the legislation. If you would like to comment, addressed them directly to ASA. The letters section of the January issue of Amstat News will feature a selection of the comments.

### WSS on the 'Net

WSS Electronic distribution is growing! We now have nearly 200 members who receive the newsletter via email a week or more prior to the surface mail newsletter. We will soon be getting electronic mailing data that will allow us to save a significant amount of postage and printing costs by only sending the newsletter electronically to those who request this option.

If you would like to receive the newsletter by email, please send a note to Vince Massimini (svm@mitre.org) listing your name, organization, and internet email address. Also, if your email address has changed, please let Vince know. Your messages may be bouncing and he can't get them to you!

### 1996 Science Fairs

Volunteers are now being solicited to represent the Washington Statistical Society as judges in local area science fairs next spring. Since 1986, WSS has provided special awards at these fairs to students whose projects demonstrate excellence in statistical theory or application. Those who have participated in this activity have very much enjoyed the opportunity to interact with these students and to observe the widely diverse projects which are presented. The WSS sponsors awards at fairs in Northern Virginia, suburban Maryland and the District of Columbia. The fairs are held on a Saturday morning in mid-March to mid-April. The only time required is that one Saturday morning, plus one weekday lunchtime meeting to discuss judging strategy and to distribute the awards to be given out at each fair.

If you would like to be a WSS science fair judge, or if you would like additional information about this activity, please contact Lee Abramson at (301) 415-6180.

### Clarification

In a gracious letter, Joe Waksberg pointed out that the credit for the success of the Morris Hansen Lecture Series should go to the entire WSS committee appointed to plan and oversee this specific lecture series. The contributions of all committee members in the development and administration of the lecture series are equal.

### Notice from the WSS Editors

Items for publication in the February 1996 WSS NEWS should be submitted no later than November 28, 1995. Fax items to Mike Feil at 301-443-4045, email to mfeil@helix.nih.gov, or surface mail to 2361 Emerald Heights Court, Reston, VA 22091-1750.

## Program Abstracts

- Topic:** Using Mixed-Effects Modelling to Aid the Sample Design Process
- Speakers:** David Judkins, Westat, Inc.  
Donald Malec, NCHS
- Chair:** Julia L. Bienias, Bureau of the Census
- Sponsor:** Methodology Section
- Date/Time:** Wednesday, December 6, 1995, 12:30-1:30
- Place:** BLS Cognitive Lab, Postal Square Building, Room 2990, 2 Massachusetts Avenue, NE, Washington, DC (Red Line -- Union Station). Enter at Massachusetts Avenue and North Capitol Street.
- Abstract:** The current National Home and Hospice Care Survey (NHHCS) is a three-stage stratified design with additional implicit strata and a fixed sample size that produces varying sample weights. In order to evaluate new designs under consideration for the next fielding of the NHHCS, formulas for both design-based variances and design-based variance components are needed. In complex designs, such as the NHHCS, simplifying population assumptions are usually made so that the variance formulas can be evaluated. As an alternative, we model the population using data from the current survey. We then obtain exact population variances (and variance components) based on a population predicted from the model. A generalized linear mixed-model is employed to aid in the prediction and to account for design variables. Gibbs sampling techniques are used to produce properly predicted populations and to account for uncertainty in the model parameters. Results covering the modelling and a comparison of a two- versus three-stage sample design will be presented.

**Program Abstracts (Cont'd)**

Washington Statistical Society  
President's Invited Session  
December 7, 1995  
BLS Cognitive Lab Conference Room  
1:00 - 2:30 p.m.

**Title:** "The Federal Committee on Statistical Methodology (FCSM): Responding to the Needs of the Federal Statistical Community, 1975 to the Future"

**Chair:** Ron Fecso, President, Washington Statistical Society

**Organizer:** M. Denice McCormick Myers, Secretary, FCSM

**Abstract:** The objectives are to show the Federal Committee on Statistical Methodology (FCSM) is a fundamental part of the Federal Statistical System; its responsiveness to its clients: the Federal Statistical Agencies; and its interactions with academic and professional arenas. The history and evolution of the committee, selected contributions, and future needs of the statistical community will be discussed.

President's Invited Session Topics

Presenter

Committee Origins and Function

Maria Gonzalez  
Office of Management and Budget

FCSM Role in the Federal Statistical System

Monroe Sirken  
National Center for Health Statistics

Partnership with Academia

Robert Groves  
Joint Program in Survey Methodology  
Universities of Michigan and Maryland

The Professional Profile of Federal Committee on Statistical Methodology

Stephen Fienberg  
Carnegie Mellon University

Meeting Future Needs

Norman Bradburn  
National Opinion Research Center

For more information contact M. Denice McCormick Myers by phone at 202-690-0922, or by email at [DMMYERS@AG.GOV](mailto:DMMYERS@AG.GOV).

## Program Abstracts (Cont'd)

- Topic:** Optimal Experiment Design for Diagnosis of Complex Systems
- Speaker:** Payman Sadegh  
The Institute of Mathematical Modeling  
The Technical University of Denmark
- Chair:** Paul Zador
- Sponsors:** Physical Science & Engineering Section
- Date/Time:** Monday, December 11, 1995, 12:30 - 2:30 p.m.
- Location:** BLS Cognitive Lab, Postal Square Building, Room 2990, 2 Massachusetts Avenue, NE, Washington, DC (Red Line -- Union Station). Enter at Massachusetts Avenue and North Capitol Street.
- Abstract:** Appropriately designed experiments have a major impact on the inference on a system based on data from the experiments. Identical to other optimization problems, experiment design requires an optimality criterion and an optimization tool. The criterion measuring the informational value of the data is normally problem dependent. In connection with the optimization part, we focus on the generic problem of experiment design for systems of such complexity that it is impossible or difficult to obtain a model relating the design variables to the criterion. Hence, optimization tools that solely rely on data are of major interest. Such situation arises often in problems such as test design in medicine, developing marketing strategies for a product in a business setting, etc. In the present work, we focus on the problem of locating sensors on a system for detection and diagnosis. This is a problem of generic interest in a variety of applications, e.g. radar usage, structural analysis, machine diagnostics, etc. Our objective is to minimize the probability of making wrong decisions about the occurrence or diagnosis of a failure (event). We present a solution based on simultaneous perturbation stochastic approximation (SPSA) requiring only experimental measurements on the system for given types of events. Among stochastic approximation variants, SPSA with its highly efficient gradient estimation is an especially attractive alternative, from the point of view of reducing the number of costly experimental measurements on the system. Finally, sensor location for bridge monitoring problems is discussed as an important application of the methodology.

## Program Abstracts (Cont'd)

**Topic:** Parameter Estimation in Cox Proportional Hazards Model with Covariate Measurement Errors

**Speaker:** Fanhui Kong  
University of Maryland Baltimore County

**Chair:** Sally Hunsberger, National Heart, Lung, and Blood Institute

**Date/Time:** Wednesday, December 13, 1995 2:00-4:00 p.m.

**Location:** Rockledge II, 9th floor conference room 1A Take old Georgetown to Democracy Boulevard. Turn right onto Rockledge Drive. 6701 Rockledge Drive.

**Sponsor:** Public Health and Biostatistics Sections

**Abstract:** In Cox's proportional hazards model, if the covariates are measured with error, the maximum partial likelihood estimate (MPLE) becomes asymptotically biased. To reduce the bias, Prentice (1982) proposed a modified partial likelihood function by replacing the hazard functions in Cox's partial likelihood by their expectations. Such a partial likelihood function depends on the unknown parameters as well as the unspecified baseline hazard function therefore the induced MPLE is hard to find. A lot of efforts have been made toward solving the induced likelihood equation since Prentice (1982).

In this work, we show that contradicting to what people have expected, Prentice's induced MPLE in fact does not reduce the bias. Instead a better way to estimate the parameter is to find the bias of the naive MPLE and deduct it from the naive MPLE. This turns out to be quite effective and an adjusted MPLE is derived whose first order bias is zero. Survival functions can also be estimated. The formulas are demonstrated by the Primary Biliary Cirrhosis Data.

## Program Abstracts (Cont'd)

- Topic:** The Commerce Department-Wide Customer Satisfaction Survey: From Start to Finish
- Speakers:** Tracy R. Wellens, Bureau of the Census  
Frank A. Vitrano, Bureau of the Census
- Discussant:** Len Covello, Farm Services Agency, USDA
- Chair:** Linda Atkinson, Economic Research Service
- Date/Time:** Monday, December 18, 1995, 12:30 - 2:00 p.m.
- Location:** BLS Cognitive Lab, Postal Square Building, Room 2990, 2 Massachusetts Avenue, NE, Washington, DC (Red Line -- Union Station). Enter at Massachusetts Avenue and North Capitol Street.
- Sponsor:** Economics Section
- Abstract:** In order for a government agency to provide the highest quality of customer service, it is first necessary to know the needs and expectations of the customer. Once this is known, action can be taken to better meet these needs and expectations. The development of an appropriate survey instrument and data collection methodology form the foundation of this dialogue between the agency and the customer. This paper will outline issues related to the development and implementation of a "generic" customer satisfaction survey which was used to assess the satisfaction of customers from 14 agencies (consisting of 20 operating units) within the Department of Commerce. These agencies offer diverse products and services, therefore, the task of developing one instrument for surveying satisfaction across these agencies was challenging. Moreover, this questionnaire was designed to obtain both agency-specific and departmental comparison information which led to additional complexities. Several problems which were encountered when developing a frame of customers and how these problems were addressed will also be discussed. The aim of this paper is to highlight survey results and to discuss issues related to making comparisons among these distinct agencies. In addition, lessons learned from the process and suggestions for research will be explored.

## Announcements Cont'd

### The World Wide Web and WSS

WSS is on the World Wide Web! So that's a lot of W's in WSS WWW, but the information is really well presented. You can check current lectures, read the newsletter, look for jobs, hook into other statistical organizations, etc. Many thanks to Dan Rope of BLS who put the page together and Jim Gentle of GMU who is providing the WWW site. The WSS WWW page is at URL <http://www.science.gwu.edu/wss> if you would like to give it a try. Note that the newsletter is also published on the page--it's the same as the surface or email edition, just a slightly different format. Stop by and take a look. Please send any feedback or suggestions to Dan Rope (Rope\_D@bls.gov) or Vince Massimini (svm@mitre.org).

### AMSIE '96

The American Association for the Advancement of Science (AAAS) will hold its 1996 meeting in Baltimore. The dates of AMSIE '96 (AAAS Annual Meeting and Science Exposition) are February 8-13.

Most of you are undoubtedly more familiar with AAAS through its journal SCIENCE than through its annual meeting. The annual meeting operates on the same principle as the journal: it is a forum in which scientists in different disciplines present cutting-edge issues in their fields not only to colleagues in their own specialty but to the wider scientific community. The Statistics Section is one of 24 discipline-oriented sections that, among other things, contributes ideas and session proposals to the annual meeting.

The theme of this year's meeting in Baltimore is "Where Science Comes to Life." The program is organized into broad tracks such as Assessing and Managing Risk; Environment and Sustainability; Neuroscience, Behavior and Language; Public Health and Medicine; and Science and International Security, to name a few. The Statistics Section is sponsoring sessions on measuring the AIDS epidemic, assessing recent shifts in health data policy, and quantitative literacy/science education; there are many additional sessions that will be of interest to statisticians depending on their field of application and

their general scientific interests.

If you have never attended a AAAS Annual Meeting, next February is your opportunity to see what one is like without having to get on an airplane and incur hotel costs. For those of you with broad general interests in scientific issues and science policy, this could be an organization in which you would like to take an active interest. More information on the meeting program can be obtained from the AAAS office: 202-326-6450.

Susan Ellenber, current Chair of the Statistics Section, invites any of you who do attend AMSIE '96 to attend the Business Meeting of the Statistics Section. This will be held on Saturday morning, February 10, 9 A.M. - noon, in Room 316 of the Baltimore Convention Center. Attendees at this meeting will include the officers of the Section, and liaison representatives from other statistical societies. Discussion will focus on potential sessions for future meetings--so if you have ideas regarding important statistical issues that should be brought to the attention of a wider audience, please join us! These meetings get extensive press coverage, and really do provide a major opportunity to call attention to our issues.

### Joint Program on Survey Methodology Course Offerings

The following course is offered by the Joint Program on Survey Methodology.

**Behavior Coding** will be offered on January 18, 1996 with a cost of \$225 for nonstudents and \$125 for students. The instructors will be Robert Belli, University of Michigan, and Nancy Mathiowetz, University of Maryland. This location is the Residence Inn by Marriot in Bethesda, Maryland.

To request a registration form or to be added to the JPSM mailing list, call 800-937-9320 or send e-mail to [jpsm@umich.edu](mailto:jpsm@umich.edu).



## Employment Column

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 write or call: Bill Arends, USDA-NASS, Room 5801 South Building, Washington, DC 20250-2000, e-mail: [warends@ag.gov](mailto:warends@ag.gov), Voice: (202) 720-6812, Fax: (202) 690-1311.

### Assistant Professor

The Department of Statistics of The George Washington University invites applications for the position of Assistant Professor, tenure accruing, beginning Fall 1996. The position requires a Ph.D. in statistics. We are seeking candidates with strong statistical computing skills whose research interests complement those of faculty members of the Department. Applicants are expected to have a serious commitment to teaching excellence at both the undergraduate and graduate levels. The Department offers B.S., M.S., and Ph.D. degrees in Statistics and, in collaboration with the School of Medicine and Health Sciences, M.S. and Ph.D. degrees in Biostatistics and Epidemiology. Candidates should send applications including curriculum vitae, relevant reprints and three letters of reference to Search Committee, Department of Statistics, George Washington University, Washington, DC 20052. Evaluation of applications will begin on February 15, 1996, and will continue until the position is filled.

### Statistician/Epidemiologist

The Center to Protect Workers' Rights seeks a statistician or epidemiologist to carry our analyses of health and medical data on workers in the construction industry. A masters degree in statistics, epidemiology, or related field and a minimum of 2 years experience is desirable. Experience with statistical computer packages, particularly SAS, essential. Salary dependent upon qualifications. Excellent benefits package available. Contact Dr. Earl Pollack, Center to Protect Workers' Rights, 111 Massachusetts Ave, NW, Washington DC 20001. Telephone: (202) 962-8490.

### Associate/Full Professor

The Department of Statistics, in conjunction with its research facility, the Biostatistics Center, is recruiting an Associate (tenure accruing) or Full Tenured Professor. It is anticipated that funding will be available for a July 1 or September 1, 1996 appointment, at the successful candidate's option. The position will be funded on a twelve-month basis jointly by University academic funds and by Biostatistics Center sponsored research funds. The Department of Statistics offers undergraduate, master's and doctoral degrees in statistics. The Department, the Biostatistics Center, and the Public Health Program of the School of Medicine and Health Sciences jointly offer advanced degrees in biostatistics and epidemiology. The position involves teaching (at reduced effort) and doctoral student supervision in support of the Ph.D. programs in biostatistics and statistics, and serving as a methodological statistical advisor for Biostatistics Center research projects. A strong record of research in statistical theory and methods related to clinical trials and epidemiological studies is required. Salary will be commensurate with experience and past performance. Please send resume and three letters of reference to: Dr. John M. Lachin, Professor of Statistics and Director, The Biostatistics Center, 6110 Executive Boulevard, Rockville, Maryland 20852. Review of applications will begin Feb. 1, 1996, and will continue until the position is filled.

### Applicant #96-02

Senior Applied Statistician/Econometrician. Expert in regression analysis, discrete and continuous multivariate analysis and measurement error problems seeks senior research or consulting assignments (full or part-time consulting). Able to delve into a variety of subject matter areas and to formulate a statistical approach to analyze a problem. Able to finish difficult to address problems or to address new problems from the gathering of data to the writing of final reports. Has written extensively for technical journals, magazines, and government and trade publications. Able to effectively analyze data from sample surveys as well as administrative records. Capable teacher as well as presenter of research results to a wide variety of audiences. No job is too small or too large. Call direct at 703-532-4544.

**President**  
Ron Fecso

(703) 235-5211

**Past President**  
Sue Ahmed

(202) 219-1781

**President-Elect**  
Phillip Kott

(703) 235-5211

**Secretary**  
Elizabeth Sweet (301) 457-4860

**Treasurer**  
Carolyn Shettle (703) 306-1780

### WSS Program Chairs

**Agriculture & Natural Resources**

Mike Steinter (202) 690-2486  
Robert Latta (202) 586-1385

**Economics**

Linda Atkinson (202) 219-0934  
Art Kennickell (202) 452-2247

**Methodology**

Sandra West (202) 606-7384  
Julia L. Bienias (301) 457-4934

**Physical Sciences & Engineering**

Paul L. Zador (301) 294-2825

**Public Health and Biostatistics**

Sally Hunsberger (301) 435-0434  
Julie Legler (301) 493-6832

**Quality Assurance**

Harold Johnson (202) 606-7758  
Amrut Champaneri (202) 268-2299

**Short Courses**

Glenn Whiter (202) 874-1114  
Jeri Mulrow (202) 874-0434

**Social & Demographic Statistics**

Michael Horrigan (202) 606-5905  
Robert Kominski (301) 457-2120

**Statistical Computing**

Jim Gentle (703) 993-1994  
Mark Pierzchalia (703) 235-5218

**Data Collection Methods**

Theresa DeMaio (301) 457-4894  
Mary Grace Kovar (202) 223-6040

**Employment**

Bill Arends (202) 720-6812

**WSS NEWS Editors**

Mike Feil (301) 443-1330  
Alyson Muff (703) 918-2217

**Membership**

Antoinette Martin (202) 254-5409  
Renee Miller (202) 254-5507  
Fritz Scheuren (703) 549-1120

**Video Librarian**

Mel Kollander (202) 973-2820

**Quantitative Literacy**

Shail Butani (202) 606-6347

**Local Arrangement**

Robie Sangster (202) 606-7517



WASHINGTON  
STATISTICAL  
SOCIETY

P.O. Box 752  
Suitland, MD 20752

NON-PROFIT ORG.  
U.S. POSTAGE  
PAID  
FALLS CHURCH, VA  
PERMIT NO. 186

**POSTMAN: DATED MATERIAL**  
**Please deliver by December 1, 1995**