Washington Statistical Society

CHAPTER • AMERICAN STATISTICAL ASSOCIATION

WSS Newsletter— January 1982

CALENDAR

WSS Sponsored:

Topic:	Now That We Have A Map, Where Do We Go?
Speaker:	Thomas Plewes, Associate Commissioner, Bureau of Labor Statistics
Location:	IRS Auditorium, Room 7132, 1111 Constitution Avenue, N.W., Washington, D.C.
Date and Time:	Tuesday, January 19, 1982, 12:30—2:00 p.m.

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Topic:	Smoothing Problems—Kalman Filter/Smoother Recursive Computational Solutions, Extensions and Applications
Speakers:	Will Gersch, ASA Research Fellow, Census Bureau and the University of Hawaii
	Genshiro Kitagawa, ASA Research Fellow, Census Bureau and Institute of Statistical Mathematics, Tokyo
Location:	Auditorium, Forrestal Building, 1000 Independence Ave., SW, Washington, D.C., Room GE-086
Date and Time:	Wednesday, January 20, 1982, 12:30—2:00 p.m.

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Topic:	Effects of Petroleum and Agricultural Commodity Prices on the Use of Ethanol Byproducts in Livestock Feeding
Speakers:	Douglas A. Samuelson, Federal Aviation Administration, and Christopher R. Reed, TRW, Inc.
Location:	Federal Building, Room 3000A—12th & Pennsylvania Ave., NW, Washington, D.C.
Date and Time:	Wednesday, January 20, 1982, 12:30—2:00 p.m.

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Topic:	Group Sequential Survival Tests
Speaker:	Mitchell H. Gail, Bometry Branch, National Center Institute
Location:	Federal Building, 7550 Wisconsin Avenue, Bethesda, Maryland, Room B-119
Date and Time:	Wednesday, January 27, 1982, 12:30—2:00 p.m.

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Topic:	Methods of Estimation for the 1980 Census Undercount
Speakers:	Charles D. Cowan, Chief, Survey Design Branch, Statistical Methods Division, Census Bureau
	Jeffrey S. Passel, Supervisory Staff Demographer, Population Division, Census Bureau
Location:	Forrestal Building, 1000 Independence Ave., SW, Washington, D.C., Room GJ015
Date and Time:	Wednesday, February 10, 1982, 12:30—2:00 p.m.

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Other Sponsored:

Sponsor:	Internal Revenue Service Statistics Division
Topic:	Statistics of Income—1977 Corporation Income Tax Returns
Speakers:	Jim Hobbs, Ray Samuelson and Victor Rehula
Location:	1201 E Street, N.W., Room 806B, Washington, D.C.
Date and Time:	Wednesday, January 27, 1982, 1:00—2:00 p.m.

NATIONAL CENTER FOR HEALTH STATISTICS SEMINAR

January 28, 1982 — 1:30 p.m. — 2:30 p.m.

Center Building, Room G-20, 3700 East-West Highway, Hyattsville, Maryland

Topic:	Nonsampling Errors Associated With an Agricultural Economic Survey, A Descriptive Study— This paper studies nonsampling errors associated with an annual agricultural economic survey and presents some empirical results comparing the survey data with true values from a Kansas farm management record system.
Speaker:	Robert D. Tortora, Ph.D., Chief, Sampling Frames and Survey Research Branch, Statistical Research Division, USDA

For further information, call Office of Research and Methodology—(301) 436-7111

Topic:	Now T̶̶̶e Have A Map, Where Do We Go?
Chair:	John Berry, Statistical Policy Division, Office of Management and Budget
Discussant:	Sar A. Levitan, Professor, George Washington University
Abstract:	On Labor Day, 1979, the Congressionally-mandated National Commission on Employment and Unemployment Statistics submitted its final report, "Counting the Labor Force". The report recommended many changes in the concepts, methods and definitions underlying the nation's unemployment and employment statistics. Two years later the Secretary of Labor has issued his final report on recommendations that the Labor Department planned to introduce to the Current Population Survey and other programs. This session addresses the implications of the Commission recommendations and the charter for future developments in the Secretary's report. Activities already underway in the affected Federal statistical agencies are examined.

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Topic:	Smoothing Problems—Kalman Filter/Smoother Recursive Computational Solutions, Extensions and Applications
Chair:	Charles Holland, Scientific Officer of the Mathematics Program, Office of Naval Research
Discussant:	Edward Wegman, Director of Statistics and Probability, Office of Naval Research
Abstract:	Let $y(n) = f(n) + e(n)$, $n=1,\ldots,N$, with the $e(n)$ independent identically distribution from $N(0,o^2)$, o^2 unknown and $f(.)$ an unknown "smooth" function. The problem is to estimate $f(n)$, $n=1,\ldots,N$, in a statistically satisfactory manner.

We survey this problem historically and mention contributions by Whittaker, Y.A. Tikhonov, Reinsch, I.J. Good, Wahba, Schiller and Akaike.

Motivated by Akaike's 1972 $O(N^2)$ marginal likelihood "smoothness priors" solution, we show an $O(N)$ Kalman smoother solution to the smoothing problem.

We also show extensions and applications of this computational approach to the modeling of physical data, the solution of "inverse" problems and to the modeling of econometric data.

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Topic:	Effects of Petroleum and Agricultural Commodity Prices on the Use of Ethanol Byproducts in Livestock Feeding
Chair and Discussant:	David Torgerson, National Economics Division, U.S. Department of Agriculture
Abstract:	As part of the U.S. Department of Agriculture's assessment of the prospects for alcohol fuels, the authors studied uses of ethanol byproducts in feed mixtures for various types of livestock, using linear programming and sensitivity analysis to predict the effects of price changes. It appears that only a combination of rising petroleum and protein supplement (especially soybean meal) prices and steady or lower corn prices would create good prospects nationally for ethanol production, although local market conditions could vary significantly. These conclusions and their implications are discussed in light of anticipated market conditions.

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Topic:	Group Sequential Survival Tests
Discussant:	L.J. Wei, Dept. of Statistics, George Washington University
Abstract:	Simulation studies were carried out to determine whether conventional group sequential boundaries are applicable to the logrank test for comparing survival in two groups. The correlation structure of increments of the logrank score is also examined.

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Topic:	Methods of Estimation for the 1980 Census Undercount
Abstract:	There are currently two methodologies in use by the Bureau of the Census for estimating the net undercount in the 1980 census: demographic analysis and dual-system estimation (also known as capture-recapture). Both techniques will be described as well as areas between the two where differences in estimates for demographic subgroups may arise.

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Topic:	Statistics of Income—1977 Corporation Income Tax Returns
Abstract:	The Internal Revenue Service, Statistics Division is sponsoring a seminar on the complete report, Statistics of Income—1977, Corporation Income Tax Returns. Jim Hobbs, Ray Samuelson and Victor Rehula of the Statistics Division will present highlights of this report. A major focus of the discussion will be on the new jobs credit, which was a result of a change in law contained in the Tax Reduction and Simplification Act of 1977. Data extracts from the report may be obtained by contacting any of the speakers on 376-0170.