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NEWSLETTER - JANUARY 1975

- January 14 - Theoretical Properties of Congruential Random Number Generators
- January 15 - Measuring Nutrition in the United States
- January 17 - Multivariate Methods for Utilizing Remote Sensing Data
- January 20 - World Fertility Survey
- January 22 - Computerized Method for Approximating the Variance of a Complicated Estimate
- January 25 - CBMS Panel Discussion: Wide-Ranging Applications of Statistics
- January 27 - A Primer on Empirical Bayes Analysis
- January 31 - Combining Independent Noncentral Chi-Square or F Tests

JOINT COMPUTER TECHNOLOGY AND NIH - STATISTICS & PROBABILITY PROGRAM

Topic: Theoretical Properties of Congruential Random Number Generators

Chairperson: Roy C. Milton, National Eye Institute

Speaker: David C. Hoaglin, Harvard University and
National Bureau of Economic Research

Random numbers generated by computer are a useful tool in many areas of statistical research, such as examining properties of statistical tests and procedures under various distributional assumptions. Uniform random numbers used in such investigations are often obtained from congruential generators. Some theoretical properties of these generators will be discussed, with their implications for use in practical applications.

When and Where: Tuesday, January 14, 2:30 - 4:00 p.m.
NEI Conference Room 6A23, Bldg. 31
(6th floor, A wing, Room 23) NIH,
Bethesda. Note: Bldg. 31 is one block
east of the Clinical Center (Bldg. 10)

PUBLIC HEALTH AND BIostatISTICS PROGRAM

Topic: Measuring Nutrition in The United States

Chairperson: Tavia Gordon, National Institutes of Health

Speaker: Arthur J. McDowell, Chief, Health Examination Survey, NCHS

When and Where: Wednesday, January 15, 1975, 11:00 a.m.
Conference Room 5, Building #31, NIH

AGRICULTURE STATISTICS PROGRAM

Topic: Multivariate Methods for Utilizing Remote Sensing Data

Chairperson: Richard P. Small, Jr., Statistical Reporting Service

Speakers: William H. Wigton, Statistical Reporting Service
Chapman F. Gleason, Statistical Reporting Service

The speakers will present methods being employed to identify crops, estimate crop acreage, and count fruit or fruit trees from remotely sensed data. Sampling and estimation techniques will be discussed and results obtained will be presented. Key characteristics of the computer programs and systems being utilized in these activities will be described and illustrated. One of the principal data inputs being evaluated is the multi-spectral data being received from the ERTS Satellite.

When and Where: Friday, January 17, 1975, 12:30 p.m. - 2:00 p.m.
Martin Luther King Library
901 G. St. N.W. Room A5

SOCIAL AND DEMOGRAPHIC PROGRAM

Topic: World Fertility Survey

Speaker: James Brackett, Chief of Demographic and Economic Analysis Division,
AID

The discussion will focus on the general background, sampling techniques, questionnaire content and design, and expected output in terms of tabulations and reports of The World Fertility Survey.

When and Where: Monday, January 20, 1975, 12:30 - 2:00 p.m.
George S. Boutwell Auditorium, 7th Floor, IRS
Building, 1111 Constitution Avenue, N.W. (There
is a cafeteria on the 7th floor close to the
auditorium.)

METHODOLOGY PROGRAM

Topic: Computerized Method for Approximating the Variance of a Complicated Estimate

Speakers: Ralph Woodruff, Bureau of the Census
Beverley Causey, Bureau of the Census

Chairperson: Susan Grad, Social Security Administration

A generalized computer program has been developed that should be particularly useful for evaluating the precision of complicated estimates. It employs linearization of non-linear estimates by the use of the first-order Taylor approximation. This is a generalized program in the sense that it can be used to evaluate the precision of any complicated estimate from any probability sample design. In most instances the only inputs required are the elementary weighted data and the form of the estimate whose precision is to be measured (the same inputs required to produce the estimate itself.) The speakers will describe the system and the computer program and report on its successful application for evaluating the precision of complicated estimates, such as estimates from multiple regression equations.

When and Where: Wednesday, January 22, 1975, 12:30 p.m.
Martin Luther King Library
901 G St., N.W. Room A5

WINTER MATHEMATICS MEETINGS (AMS, MAA, SIAM)

Topic: CBMS Panel Discussion: Wide-Ranging Applications of Statistics

Chairperson: Joan R. Rosenblatt, National Bureau of Standards

Panel: Joseph B. Kruskal, Bell Telephone Laboratories. "You have to really like applications to do them well."
Mervin E. Muller, World Bank. "Multidimensional economic time series."
Marvin Zelen, SUNY at Buffalo. "Statistical science and biomedical applications."

When and Where: Saturday, January 25, 1975, 2:00 p.m.
Shoreham Hotel, Palladian Room

PHYSICAL SCIENCE AND ENGINEERING PROGRAM

Topic: A Primer on Empirical Bayes Analysis

Chairperson: Seymour M. Selig, Office of Naval Research

Speaker: Harry F. Martz, Jr.
Department of Industrial Engineering
Texas Tech University

The Empirical Bayes approach to statistics is reviewed in a non-technical manner by discussing the questions

- 1) What is Empirical Bayes and how does it differ from the ordinary Bayesian approach?
- 2) When and how can it be used?
- 3) What is gained through using it?

Particular emphasis is given to the areas of reliability and quality control. The Empirical Bayes method is illustrated by an example with real data in a reliability problem.

When and Where: Monday, January 27, 1975, 12:30 to 2:00 p.m.
George S. Boutwell Auditorium, 7th Floor, IRS
Bldg., 1111 Constitution Ave., N.W. (There is a
cafeteria on the 7th floor close to the auditorium.)

NIH PROBABILITY AND STATISTICS SEMINAR

Topic: Combining Independent Noncentral Chi-square or F Tests

Speaker: Professor Michael D. Perlman
Chairman, Department of Statistics
University of Chicago

Fisher's omnibus procedure for combining n independent tests is based on the product p_1, p_2, \dots, p_n of the individual attained significance levels p_i , claiming overall significance if this product is small. Often, however, it is known that each p_i is based on a test statistic T_i having, at least approximately, a noncentral chi-square or F distribution, central under the null hypothesis. Several authors (e.g., Zelen and Joel, The weighted compounding of two independent significance tests, Ann. Math. Statist. 30 (1959), 885-893) have proposed ad hoc modifications of Fisher's procedure which attempt to utilize this additional information about the form of the distribution of the underlying T_i . In the talk will be discussed Bayesian methods of obtaining combination procedures of simple functional form which utilize the additional information in a more direct way.

When and Where: Friday, January 31, 1975, 2:00 p.m.
Landow Bldg., 7910 Woodmont Ave.
Conference Room C-418

JOB OPENINGSUnited States Postal Service

The Office of Statistical Programs and Standards, United States Postal Service, has an immediate opening for a Statistician, PES-20 (starting \$15,736) to supervise a minimum of three statisticians and four statistical clerks in the review and processing of statistical data collected from a recurring nationwide survey. Additional responsibilities include participating in translating mathematical formulas and statistical techniques into procedures for the collection, processing and analyses of data. Graduate level understanding of statistics and experience in large-scale survey methods and systems analyses is desired.

For information contact K. A. Ritchie, Manager, Revenue Statistics Branch, Telephone 202/245-4148.

United States Department of the Interior

Survey Statistician - the Office of Statistics, Bureau of Mines, has an opening for a Survey Statistician, GS-11, to supervise the development, revision and Office of Management and Budget clearance of 200 survey forms used to collect mineral commodity information at the National level. Major responsibilities include the design and improvement of questionnaire organization and wording and liaison with OMB on clearance of survey forms and plans. Furnish consulting services for all divisions (organized along commodity lines) which request it.

As such the incumbent must have experience in survey methods and as a minimum an undergraduate degree with a major or minor in statistics.

For further information call Arthur Berger, Acting Chief, Office of Statistics, telephone 557-0260. Submit Standard Form 171 to Mr. Berger, Bureau of Mines, Room 438, 4015 Wilson Boulevard, Arlington, Virginia 22203.

JOB APPLICANTS

Listed below is a brief description of the qualifications of individuals submitting an application seeking employment. Any employer interested in interviewing the applicant should notify Mrs. Marie D. Eldridge of their interest by Code Number. The notification should be by mail and should include the employer's name, organization and telephone number. The employee will be notified of the employer's interest and initiation of any further contact will be left to the employee. All contacts will be confidential. Mrs. Eldridge's address is: Director, Office of Statistics and Analysis, Research and Development, National Highway Traffic Safety Administration, U.S. Department of Transportation, 400 Seventh Street, S.W., Room 5125, Washington, D.C. 20590.

<u>Code Number</u>	<u>Applicant</u>
148-12-4	(1) B.A. Math (honors), M.A. (Sociology), Ph.D. (Sociology & Demography); (2) Demography, sociology, research design and methods; (3) One year health statistician, five years university professor; (4) GS-13 or equivalent; (5) Government or industry in Washington metropolitan area.
149-12-4	(1) B.S. (MBA); (2) Statistics - Operation Research; (3) Grad-Asst. - Taught Statistics; (4) \$12,000; (5) Metropolitan D.C. Area.
150-12-4	(1) B.S. Econ (Major Statistics), M.A. Statistics; (2) Systems analysis, programming, statistical analysis; (3) 14 years systems analysis, programming, statistics (health and medical); (4) GS-12/13; (5) Government in metropolitan D.C.

CODE:

- (1) Education
- (2) Fields of Competence
- (3) Years of Experience
- (4) Salary or GS level requirement
- (5) Type of employment and geographic area