



OCTOBER 1989

WASHINGTON
STATISTICAL
SOCIETY

NEWSLETTER

Oct. 5	Thursday	Reliability Theory in the Soviet Union
Oct. 18	Wednesday	Service Performance, Quality Assurance, and Customer Satisfaction at the U.S. Postal Service
Oct. 24	Tuesday	Adjustment of Provisional Mortality Series: The Dynamic Linear Model with Correlated Measurement Errors
Oct. 25	Wednesday	Weighted Rank Statistics for Comparing Survival Curves Under a Time Lag in Treatment Effect
Nov. 7	Tuesday	A Profile of the Working Poor
Nov. 15	Wednesday	CPI Users Survey: Methodology and Results

ANNOUNCEMENTS

Final Thoughts on ASA Meetings

The special ASA 150 meetings of the American Statistical Association finally did arrive. They were just as large, active, and interesting as expected.

I want to thank once again all of you Washington Statistical Society members who helped to make the meetings a success. You were present as organizers, chairpersons, speakers, and discussants in a high percentage of all technical sessions. Many of you were out of sight as you participated in the committee and section meetings that are vital to the health of a large professional organization.

Let me particularly recognize the work of the WSS Local Arrangements Committee and all of the volunteers in the Information Booth and the Press Room. Excellent material had been prepared and was available in those two areas for use by our visitors.

RICH ALLEN
Past President

Board of Directors Meeting

Much of the discussion at the August 29 meeting of the Washington Statistical Society Board of Directors was on program planning. A number of October and November sessions are in the works.

Board members discussed whether to organize some special activity to commemorate statistics month this November in conjunction with the American Statistical Association 150 celebration. However, members felt that we have already carried out an ambitious program of ASA 150 activities and don't need to plan any more special activities.

One item of discussion was the possibility of recognizing past service to the Society. Several alternatives surfaced for consideration at upcoming Board meetings.

WASHINGTON STATISTICAL SOCIETY PROGRAM CHAIRS

Agriculture & Natural Resources

Cynthia Clark 763-8558
Paul Gargiullo 586-1137

Social & Demographic Statistics

Harvey Schwartz 443-6990
John Czajka 484-9220

Short Courses

Glenn White 763-7524
Donald Gantz 764-6565
Brad Pafford 447-3623
Sid Schwartz 268-3490

Economics

John Ruser 523-1347
Neil Ericsson 452-3709

Methodology

Myron Katzoff 436-7047
Andrew White 436-7904

Public Health & Biostatistics

Ed Lakatos 496-5905
Jai Choi 436-7047

Physical Sciences & Engineering

Patricia Abel 883-6490
Refik Soyer 994-6794

Statistical Computing

Khalid Aboura 994-6794
Sylvia Leaver 272-2350

Quality Assurance

Stanley R. Freedman 586-2038
John Galvin 272-5066

Newsletter Editor

Michael Cohen 454-6193

Employment

Bill Arends 447-6812

PROGRAM ABSTRACTS

TOPIC: RELIABILITY THEORY IN THE SOVIET UNION

SPEAKER: Igor Ushakov, USSR Academy of Sciences and George Washington University

CHAIR: Richard M. Soland, George Washington University

DATE & TIME: Thursday, October 5, 1989, 12:00 to 1:00 p.m. (Note special time.)

LOCATION: Room 301, Staughton Hall, 707 22nd Street, N.W. (corner of 22nd & G Sts.), George Washington University

SPONSORS: Physical Science and Engineering Section, WSS, Department of Operations Research, GWU

ABSTRACT: This review is based on the paper by Academician Boris Gnedenko and the speaker. (A lot of interesting details about reliability theory in the Soviet Union can be found also in the recent review by American scientists Rukhin and Hsieh.) This review is devoted to some fundamental results obtained by Soviet specialists in reliability theory. The topics will be focused on some special problems of probabilistic calculation, simulation, optimization and statistical estimation of reliability indices. Some new results also will be presented.

TOPIC: SERVICE PERFORMANCE, QUALITY ASSURANCE, AND CUSTOMER SATISFACTION AT THE U.S. POSTAL SERVICE

SPEAKER: Sidney Schwartz, U.S. Postal Service

CHAIR: Stan Freedman, Energy Information Administration

DATE & TIME: Wednesday, October 18, 1989, 12:30 to 2:00 p.m.

LOCATION: Rm. 1P619, USPS Headquarters, 475 L'Enfant Plaza, S.W. (All non-postal employees must present a photo ID and sign the register at the guards' station to gain entrance to the bldg.)

ABSTRACT: The basic task of the U.S. Postal Service is to provide mail delivery and window service that is accurate, timely, and courteous. The Postal Service conducts formal programs to (1) measure and monitor timeliness of mail delivery, (2) collect detailed information and provide immediate feedback about certain systemic mail processing problems, and (3) measure customer satisfaction about current postal services and facilities. Operational and statistical features of many of these programs will be presented.

TOPIC: ADJUSTMENT OF PROVISIONAL MORTALITY SERIES: THE DYNAMIC LINEAR MODEL WITH CORRELATED MEASUREMENT ERRORS

SPEAKER: Robert H. Shumway, Division of Statistics, University of California, Davis

CHAIR: Myron J. Katzoff, Office of Research and Methodology, NCHS

DATE & TIME: Tuesday, October 24, 1989, 1:30 to 3:30 p.m. (Note special time.)

LOCATION: National Center for Health Statistics, Room 1-39A, 3700 East-West Highway, Hyattsville, MD 20782

SPONSORS: Office of Research and Methodology, NCHS, and WSS

ABSTRACT: We consider the problem of using provisional mortality as benchmark data for the purpose of producing minimum mean square estimators for a final mortality series. Using an additive model composed of trend, modelled as a stochastic spline, and an autoregressive

PROGRAM ABSTRACTS (continued)

seasonal, we obtain smoothed forecasts and adjusted values for a final mortality series in the presence of correlated measurement error. The model parameters are estimated using maximum likelihood and the EM algorithm. We illustrate the technique by using provisional data to forecast Ischemic Heart Disease mortality.

TOPIC: **WEIGHTED RANK STATISTICS FOR COMPARING SURVIVAL CURVES UNDER A TIME LAG IN TREATMENT EFFECT**

SPEAKERS: David M. Zucker and Edward Lakatos, National Heart Lung and Blood Institute

CHAIR: Joseph Gastwirth, George Washington University

DISCUSSANT: Eric Slud, University of Maryland

DATE & TIME: Wednesday, October 25, 1989, 1:30 p.m. (Note special time.)

LOCATION: Wilson Hall, Building 1, National Institutes of Health (from Medical Center Metro- left on South Dr., right on Center Dr., 2nd bldg. on left).

SPONSOR: Public Health and Biostatistics, WSS

ABSTRACT: In certain long-term treatment trials, one expects that there will be some lag period before the treatment is fully effective. This talk presents two weighted rank tests designed to be efficiency robust across a wide range of lag situations: a maximin efficiency robust test and a simplified version. Both can be computed as easily as the log-rank test. Asymptotic efficiency calculations, supported by simulations, show that the two proposed tests are substantially more effective than the log-rank test in certain lag situations with relatively little efficiency loss where no lag exists. The maximin statistic is recommended for situations where a lag is expected but its nature cannot be precisely specified.

TOPIC: **A PROFILE OF THE WORKING POOR**

SPEAKER: Bruce W. Klein, Bureau of Labor Statistics

CHAIR: Denton R. Vaughan, Social Security Administration

DISCUSSANT: Daniel H. Weinberg, Bureau of the Census

DATE & TIME: Tuesday, November 7, 1989; 12:30 to 2:00 p.m.

LOCATION: Room 2437, GAO Building, 441 G Street, N.W., Washington, D.C.

SPONSOR: Social and Demographic Statistics Section

ABSTRACT: Recently, there has been great interest in persons who are in the work force but live in families with incomes below the poverty level. This seminar will explore the demographic characteristics, employment problems, and earnings of the working poor, defined as those in the labor force a half year or more but living in families with incomes below the poverty level. Data are derived from the March, 1988, Current Population Survey. Poor workers are compared to nonpoor workers based on race, sex, age, family relationship, and living arrangements. Family structure and the number of earners in poor families with workers are examined. Employment problems under investigation are unemployment, involuntary part-time work, and low earnings—a low pay measure based on the average real value of the minimum wage during 1967-87.

PROGRAM ABSTRACTS (continued)

TOPIC: CPI USERS SURVEY: METHODOLOGY AND RESULTS

SPEAKER: Richard Kamalich, Bureau of Labor Statistics

CHAIR: Stanley R. Freedman, Energy Information Administration

DATE & TIME: Wednesday, November 15, 1989, 12:30 to 2:00 p.m.

LOCATION: Rm. 2736, GAO Building, 441 G Street, N.W., Washington, D.C.
(Sign in at guard desk and state purpose and room number of visit.)

SPONSOR: Quality Assurance Section

ABSTRACT: In the Fall of 1988 the Bureau of Labor Statistics surveyed a sample of users of the Consumer Price Index. Measurement objectives of the survey were: (1) to develop a CPI usage profile, or to identify which CPI data are used for what purposes; (2) to gain user feedback on the quality of CPI information services; and (3) to gain user opinions on the usefulness of a number of prospective CPI program and methodological changes. This paper presents results of the survey and discusses policy implications. Various aspects of the survey design are also discussed including questionnaire development, sample design, frame construction, data collection (mail survey with telephone follow-up), and nonresponse.

ANNOUNCEMENTS (continued)

Honoring the ASA 150 at the National Academy of Sciences

A symposium on A Guide to Assessing Societal Risk will be held at the National Academy of Sciences Building, 21st and C Streets, N.W., Washington, D.C., on November 29, 1989 from 2:00 to 5:30 p.m. This talk is presented by the Committee on Applied and Theoretical Statistics, of the Board on Mathematical Sciences, National Research Council and commemorates the sesquicentennial of the American Statistical Association. This symposium is sponsored by the American Statistical Association, the Biometric Society, and the Institute of Mathematical Statistics. For registration information, contact the Board on Mathematical Sciences at (202) 334-2421.

Fellowship Announcement

American Statistical Association/National Science Foundation/Census Bureau Research Fellowships and Associateships will again be offered to conduct research at the Census Bureau. These fellowships provide a unique opportunity to

make major advances in methodological or subject matter research related to Census Bureau operations or data. General areas for research include statistical methodology and computing, social and demographic studies, and economic measurement and analysis. Requirements are: for Fellows, recognized research record in relevant field (e.g., Statistics, Demography, Sociology, Economics, Geography); for Associates, at least two years of graduate study (or equivalent) in relevant field plus computer experience. Salaries are commensurate with qualifications and experience; also, fringe benefits and a travel allowance are provided. Length of term and starting date are flexible—usually six months to a year beginning September 1. Fellows and Associates can start as early as June 1, 1990, and terms can be split into two or more parts. Please apply by January 5, 1990 for Fellows and February 15, 1990 for Associates. For information on specific research topics and on how to apply, contact Dr. William Bell, Room 3000-4, Statistical Research Division, Bureau of the Census, Washington, D.C. 20233 (301/763-3957).

ANNOUNCEMENTS (continued)

Thanks to Volunteers

from Nancy Kirkendall

I would like to take this opportunity to thank members of the Local Arrangements Committee and other volunteers for a job well done in providing local support for the recent meeting of the American Statistical Association.

Most of the work of the committee was accomplished before the meetings started. We met monthly beginning about this time last year. Members of the committee prepared articles for newsletters of various statistical associations to advertise features of the Washington, D.C. area. The committee also prepared fancy brochures (discussed below) to be handed out at the meetings; prepared notebooks full of information to answer any conceivable question; organized the content and volunteers for the information desk; and participated in the organization of the publicity room.

The pre-meeting publicity in association newsletters was handled by Mary Garvin, Mary Batcher, Dwight Brock, Sheree Emoto, and Nancy Flournoy.

Any of you who stopped by the local information booth at ASA found a number of friendly folks eager to help answer your questions, and a flock of fancy brochures. Thanks in particular to Terry Shelton for organizing volunteers in the information booth; to Julia Oliver and Lynn Kay for the restaurant guide; to Ginny deWolf for the highlights guide; to Stan Freedman for the museum guide; and to Stephanie Shipp for the athletic guide.

Bob Parker worked with ASA in organizing the publicity room and identifying appropriate members of the press to contact. He also personally spent a lot of time in the press room and recruited and scheduled the other press room volunteers.

The other members of the Local Arrangements Committee were Pankaj Ghosh, Yahia Ahmed, Carolee Bush and Leslie Christovich. They helped out in a number of ways including: preparations for the information desk, assembling notebooks, verifying phone numbers in brochures, and fielding calls from volunteers.

Thanks to the volunteers who worked at the information desk: Gregory Alexander, Casey Beaudreau, Gabrielle Bedewi, Mary Christman, Alfredo Echeverri, Terri King, Young Li, Patricia Meyer, Bill Rosenberger, Beth Saunders, Pat Snee, Maureen Clifford, Paul Cook, Nancy Collins, Linda Davis, Joy Esterlitz, Fred Freme, Cindy Goff, Ellen Hertz, Susan Hostetter, Pete Karcher, Lynn Kay, Carrol Kindal, David Marker, Jeri Mulrow, Lorraine McCall, Anna Nadias, Fred Olson, Linda Pickle, Margaret Roper, Donny Rothwell, Sid Schwartz, Arthur Silverberg, and Brian Taylor. The first eleven volunteers are students at local universities. The others are WSS members who responded to our call for volunteers. Members of the committee also helped out by supervising the information desk (generally for one entire day): special thanks to Sheree Emoto, Pankaj Ghosh, Julia Oliver, and Terry Shelton.

The WSS volunteers who worked in the press room are Bill Bell, Robert Blackwelder, Marie Argana, Stephanie Shipp, Rich Allen, John Czajka, and Tom Petska. This was an especially active committee, with members who worked very well together. Whenever one member needed help, there was another member who willingly volunteered.

Thanks again to everyone for the support and hard work. It was a pleasure working with you all. I think we did a fine job.

Census Bureau's 1990 Annual Research Conference Announced

The Census Bureau's 1990 Annual Research Conference (ARC 1990) will be held March 18-21, 1990, at the Holiday Inn Crowne Plaza in Arlington, Virginia, only 1/2 mile from National Airport and three blocks from Metro. ARC 1990 will comprise a mix of topics such as reconciling foreign trade estimates between countries, disclosure avoidance, imputation methodology, behavioral research on the census undercount and more. For further information contact Ms. Maxine Anderson-Brown, ARC Conference Coordinator, Office of the Director, Bureau of the Census, Washington, D.C. 20233, 301/763-1150.

ANNOUNCEMENTS (continued)

Measurement Errors in Surveys **1990 International Conference and Monograph**

Over the past several months, significant progress has been made toward organizing an edited monograph and international conference on Measurement Errors in Surveys. The conference is scheduled for some time in the first two weeks of November, 1990, in the United States. Sponsorship of the American Statistical Association has been obtained. Further, reflecting the intent of the project to bring together the research in survey measurement error across many disciplines, the American Association for Public Opinion Research, the International Association of Survey Statisticians, and the American Marketing Association have been asked to co-sponsor the undertaking. The organizing committee has met several times. Fund-raising activities have been under way since March, and the committee is confident that the widespread support experienced so far will assure the project's success.

The organizing committee is now entering the second phase of its work—the identification of current research in the area of measurement error in surveys suitable for presentation in the monograph. The committee is seeking contact with potential authors of papers. If you have a potential contribution (or know of someone who might), send a detailed abstract, two to three double-spaced pages in length, to the Organizing Committee Chair, Paul P. Biemer, Box 30003, Dept. 3130, New Mexico State University, Las Cruces, NM 88003-0003. The deadline for all abstracts is October 15, 1989.

The committee is attempting to assemble the best possible monograph offering an integrated summary of the current state of the field in survey measurement error research and methods. Authors of all papers selected for the monograph will be invited to present the paper at the conference. Inevitably, there will be good papers that cannot be included in the monograph. However, these too will be welcomed for presentation at the conference. Later, the organizing committee will issue a call for abstracts of contributed papers for the con-

ference. These will be screened and some included in the conference presentations.

Finally, as is usually the case with these types of endeavors, the conference is in need of financial support. We would appreciate your asking your employer for a donation. The suggested contribution is from 5,000 to 10,000 US\$, but of course all contributions are welcomed and will be greatly appreciated. The American Statistical Association has agreed to act as a repository for contributions to the project. Send checks to Dr. Barbara Bailar, Executive Director, American Statistical Association, 1429 Duke Street, Alexandria, VA 22314-3402, with a cover letter describing the contribution and a check made out to the American Statistical Association/International Conference on Measurement Error. All contributions will be fully recognized.

Science Fairs 1990

Volunteers are now being solicited to represent the Washington Statistical Society as judges in local area science fairs next spring. For the past several years, 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- to late March and early April. The only time required is that 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 Susan Ellenberg at (301) 496-0694; or send a note with your name, address, and daytime telephone number to: Susan Ellenberg, AIDS Program, NIAID, 6003 Executive Boulevard, Rockville, Maryland 20892.

ANNOUNCEMENTS (continued)

Hierarchical/Multilevel Models: A Workshop

Multilevel Models

Most data sets in the human and biological sciences exhibit hierarchical structure of one kind or another. When such structures are reflected in the variables under study, traditional statistical techniques that do not take account of those structures will usually give misleading results.

In educational systems, for example, students are grouped within schools, which may be further grouped within school boards, etc. It may then be important to study the manner in which the variation in measurements is divided between students, schools, etc.; and to search for factors that might help to explain such variation—especially those at the level of school that are amenable to manipulation. “School effectiveness” is currently viewed as an important issue in many countries, and multilevel models provide an appropriate method for analyzing school-related data.

The Workshop

Separate research groups in the U.K. and in the U.S.A. have developed models for these kinds of data and have written appropriate software for fitting them. A group in the U.K. have had close links with OISE, where Professor Harvey Goldstein of the Institute of Education, University of London, is Adjunct Professor. The workshop will be structured around his book and on the topic (Goldstein, H. *Multilevel models in educational and social research*. New York: Oxford University Press, 1987) and a computer program written for the PC/AT.

A workshop for data analysts will be held at OISE in late March 1990, for up to about 60 participants. They will be introduced to substantive areas of application of multilevel models, in education and the social sciences generally. The workshop will be led by Professor Goldstein, assisted by Bob Prosser and John Rasbash of the University of London and by OISE personnel.

Inquiries may be directed to: Professor D. F. Burrill, Department of MECA, OISE, 252 Bloor Street West, Toronto, Canada M5S 1V6, or by e-mail to MLEVEL@UTOROISE on BitNet.

1989 Winter Simulation Conference

Preliminary programs are available for the 1989 Winter Simulation Conference, which will be held on December 4-6, 1989 at the Capital Hilton Hotel in Washington, D.C. A copy of the WSC '89 Preliminary Program, which includes a list of speakers and papers as well as registration and hotel information, can be obtained by contacting Publicity Chair Barry L. Nelson, Department of Industrial and Systems Engineering, The Ohio State University, Columbus, Ohio 43210; (614) 292-0610; nelson-b@eng.ohio-state.edu.

Discrete-event simulation, which is the focus of the conference, is the most widely used tool for the design and analysis of systems subject to uncertainty, such as manufacturing, transportation, distribution, computer, communication, military, and health care systems. WSC '89 will feature introductory and advanced tutorials on simulation modeling and analysis, software tutorials describing new products and features, and research sessions on analysis methodology, modeling methodology, simulation in manufacturing, and general simulation applications. Each tutorial and research session is supported by a paper published in the conference proceedings, which is available during conference registration. The software tutorials are backed up by an extensive vendor exhibits area for demonstrations and further discussion.

The keynote address will be given by A. Alan B. Pritsker, Chairman of the Board of Pritsker Corporation, and is entitled “Why Simulation Works.” Other conference events include a pre-conference Ph.D. student colloquium and a post-conference tour of the National Institute of Standards and Technology's Advanced Manufacturing Research Facility.

ANNOUNCEMENTS (continued)

Operations Research/ Management Science Symposium

The annual Symposium of the Washington Operations Research Management Science Council (WORMSC) will be held November 1st at the Metro (Law School) Campus of George Mason University in Arlington, VA. The full-day symposium will include nine sessions, four workshops, and a student case competition. Registration materials are available from the WORMSC Business Manager, Associations International, 6803 Whittier Ave., McLean, VA, (703) 442-8780. Admission for WORMSC members is \$60. Non-members pay \$75, which includes membership.

Statisticians should find a number of presentations to be of immediate professional interest. Among these are a two-hour product review of PC-based statistical packages, given by Charlie Hallahan and James Patterson of the Capital PC Users Group. In other examples, John Irvine, of ERIM, will chair a session of four papers including statistical applications and methods. Lee Abramson, of the Nuclear Regulatory Commission, will chair a session of three papers on expert opinion and subjective risk assessment. And, as P.T. Barnum might have said, that's far from all that the statistical community might find of interest.

The Symposium will have morning and afternoon programs, separated by the plenary address by Thomas M. Cook, President of the Decision Technologies Division of American

Airlines, and newly elected President-Elect of the Institute of Management Science. He will be introduced by Robert Machol, Chief Scientist of the FAA.

Morning offerings include four tracks, as follows: **Cost Analysis**, chaired by William Hutzler of MITRE; **Tools of OR/MS**, chaired by Chelsea White, III, of U. Va.; **Methods of OR/MS**, chaired by Thomas Gullledge of GMU; and **Military Applications**, chaired by Col. Rudy Ehrenberg, USA, of Defense Systems Management College.

The student case competition, sponsored by SYSCON, Inc., will begin in the morning. The winner will be announced following the plenary address.

Saul Gass of U.Md. will introduce the afternoon events. They include an applications track chaired by W. Edward Cushen, a Federal employee, and four workshops, as follows: **Optimization**, Carroll Nelson of Ketron Management Science, Inc.; **Simulation**, Skip Bryan of C.A.C.I.; **AHP**, Ernest Forman of Expert Choice, Inc.; and **PC Statistical Software Review**, Charlie Hallahan and James Patterson of the Capitol PC Users Group.

Probability and Statistics Day

The Mid-Atlantic Probability and Statistics Day will be held at the National Institute of Standards and Technology, Gaithersburg, Maryland, on Saturday, October 21, 1989. For information call Charles Hagwood at 301/975-2846.

EMPLOYMENT COLUMN

The Washington Statistical Society is greatly indebted to Evelyn Kay for her generous contribution of time organizing, editing, and collecting ads for the employment service included at the end of this newsletter. This service has provided jobs and candidates for jobs for many years to statisticians and statistical agencies in the Washington area. Now that Evelyn has decided to step down as organizer of this service, the difficult task of maintaining her example of excellence falls to Bill Arends. If you have a job opening or are available for a new position, please call him at 447-6812.

JOB OPENINGS

STATISTICIAN, BIOSTATISTICIANS

Science Applications International Corporation (SAIC), an employee-owned company, has immediate openings for M.S. level statisticians on environmental and epidemiologic studies. Successful candidates must have strong written and verbal communication skills and experience with statistical software packages (e.g., SAS, BMDP, SYSTAT). Salary commensurate with experience. SAIC offers an excellent competitive benefits package. Send resume and salary requirements in confidence to: **SAIC, Attention: Dr. Russell H. Roegner, 8400 Westpark Drive, McLean, VA 22102.**

JOB OPENINGS (continued)

MATHEMATICAL STATISTICIAN - GS-13 or GS-14

The Biometry Branch of the Prevention Research Program of the National Institute of Child Health and Human Development (NICHD) has two mathematical statistician positions available. These positions are at the GS-1529-13 (salary range \$41,121 to \$53,460) or GS-1529-14 level (salary range \$48,592 to \$63,172) depending on qualifications and experience. Responsibilities include providing statistical consultation on research projects of the Prevention Research Program and other components of the NICHD in national and international investigations and research on the development of statistical methods. The positions require a Ph.D. in statistics or biostatistics with strong emphasis on mathematics or equivalent training and experience. Candidates must have a proven research record reflected in scientific publications. Interested candidates may contact Dr. Young Jack Lee, Chief, Biometry Branch, Prevention Research Program, NICHD, (301) 496-6811 or Ms. Mary Glynn, Personnel Specialist, Office of Personnel, NICHD, (301) 496-3365 or send applications consisting of curriculum vitae and form SF-171, Application for Federal Employment, to: Ms. Glynn, Bldg. 31, Room 2A25, NICHD, NIH, 9000 Rockville Pike, Bethesda, Maryland 20892, An Equal Opportunity Employer.

OPERATIONS RESEARCH/MATHEMATICAL STATISTICS/APPLIED MATHEMATICS

The Directorate of Intelligence in the Central Intelligence Agency studies foreign policy and national security issues for senior policymakers in the U.S. government. A small internal consulting group performs quantitative analyses for Directorate of Intelligence. Members of this group devise novel statistical, operations research, and applied mathematical techniques to contribute to a variety of intelligence problems, such as arms control monitoring issues, agricultural crop production estimation, and technology transfer issues. This group currently has one or more openings. Successful candidates will have or be near completion of a Ph.D. in statistics, operations research, applied mathematics, or a related field; a working knowledge of FORTRAN or an equivalent language; and the ability to present ideas clearly to nontechnical clients. Strong candidates with all degree requirements except for completion of dissertation will also be considered. If the candidate desires, opportunities exist for travel and continuing education. U.S. citizenship is required. Starting salary ranges from \$30,000 to \$45,000, depending on education and experience. All applicants must successfully complete medical, security, and polygraph examinations. Forward resume and graduate transcript to: Office of Information Resources, (CI29), STAT/OR, Central Intelligence Agency, Washington, D.C. 20505. We will respond within 30 days to those judged to be of further interest. The CIA is an equal opportunity employer.

GENERAL STATISTICIANS - GS-13 or GS-14

The Rehabilitation Services Administration, U.S. Department of Education, has two job openings for general statisticians. One is at the GS-14 level, the other at the GS-13 level. The work involves the development and maintenance of statistical reporting systems, the analysis and evaluation of various facets of the vocational rehabilitation (VR) program on the basis of data reported by 83 State VR agencies, and the dissemination and presentation of the results to a wide variety of data users. Candidates should have experience in all facets of survey methodology and the application of statistical techniques in analyzing and evaluating program operations and trends, and knowledge of microcomputer software for data processing and analysis purposes. Call Ann Weinheimer at 202-732-1345 for application information.

JOB OPENINGS (continued)

MATHEMATICAL STATISTICIANS (GS11/12/13)

The Biometrics Branch of the Center for Veterinary Medicine, Department of Health and Human Services, is seeking two Ph.D. mathematical statisticians to provide mathematical and statistical support to the research and regulatory activities of the Center. The positions involve reviewing and evaluating mathematical and statistical methods, procedures and concepts involved with new animal drug applications along with supporting tests, research, and clinical data. Oral and written communication skills are important. Proficiency in the use of personal computers and knowledge of SAS is helpful. Send SF-171 application forms and resume to: **Dr. James J. Colaianne, Chief, Biometrics Branch, Center for Veterinary Medicine, Room 6 B-21, 5600 Fishers Lane, Rockville, MD 20857 or call 301/443-1580** for additional information.

JOB APPLICANTS

Listed below is a brief description of the qualifications of an applicant seeking employment. Employers interested in interviewing this applicant should notify Mr. Arends of their interest by CODE NUMBER. The request should be by mail and should include the employer's name, organization, and telephone number. The applicant will be notified of the employer's interest and initiation of any further contact will be left to the applicant. All contacts will be confidential.

CODE #90-01

Objective: Application of econometrics and advanced forecasting techniques to any suitably difficult subject matter.

Experience: Forecasts of automobiles, electricity, furniture, savings, long distance telephone calls, chemicals and plastics, and the results of oil exploration. Fifteen years of progressively increasing responsibility as an econometrician, forecaster, analyst, and researcher into the methods and empirical applications of statistics to economics.

Expertise: Application of artificial intelligence to forecasting, integration of economics with statistics, application of numerical methods to econometric analysis. Accomplished writer and public speaker.

Computers: PC expert, a decade of mainframe experience, numerous computer languages, and canned programs.

Education: Ph.D., University of Michigan, Ann Arbor, 1982.
Fields: econometrics, statistics, regulated industries.

CODE #90-02

Position wanted: Mathematical Statistician, Grade 13 or 14

Education: M.A. in Statistics, B.A. and Ph.D. in the Social Sciences

Experience: Strong background in survey design, survey measurement errors, development of computer-assisted data collection methods, questionnaire development through experimental and field methods, survey quality control



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