NEWS AND NOTICES

Readers are invited to submit to the Treasurer of the Institute news items of interest

Personal Items

E. J. Burr received his Ph.D. in 1962 from the University of New England, Armidale, N.S.W., Australia, for his thesis "Some small-sample problems in non-parametric statistics".

Irving W. Burr has been appointed Chairman for 1962–1963 of the Department of Statistics in the Division of Mathematical Sciences at Purdue University.

Shanti S. Gupta has been appointed Professor of Statistics at Purdue University and has resigned from the Bell Telephone Laboratories. He spent the 1961–62 academic year as Visiting Professor, Department of Statistics, Stanford University.

Professor Wayne W. Gutman, of the University of South Dakota, is on active duty in the U. S. Naval Reserve as Commander this academic year, serving as Professor of Mathematics at the Naval Postgraduate School, Monterey, California.

Professor H. O. Lancaster, of the Department of Mathematical Statistics, University of Sydney, has been awarded the Thomas Ranken Lyle Medal for 1961 for his researches over the five years, 1957 to 1961 in statistics—both in the mathematical development of the theory of statistics and in its application to specific problems in the interpretation of medical data.

Dr. Harold J. Larson, of Stanford Research Institute, has been appointed Assistant Professor of Mathematics at the U. S. Naval Postgraduate School, Monterey, California.

Dr. M. G. Neurdenburg, Editor-in-Chief of the Netherlands Journal of Social Medicine, died in November.

Madan L. Puri has accepted the position of Visiting Assistant Professor of Statistics in the Courant Institute of Mathematical Sciences, New York University, for the academic year 1962–63. Before joining the Courant Institute, he was research statistician in the Department of Statistics, University of California, Berkeley.

Dr. Robert R. Read, of the University of Chicago, has been appointed Associate Professor of Mathematics at the U. S. Naval Postgraduate School, Monterey, California.

Dr. W. Max Woods, of CEIR, Palo Alto, California, has been appointed Associate Professor of Mathematics at the U. S. Naval Postgraduate School, Monterey, California.

Dr. Peter W. Zehna, of CEIR, Palo Alto, has been appointed Associate Professor of Mathematics at the U. S. Naval Postgraduate School, Monterey, California.

New Members

The following persons have been elected to membership in the Institute

Assakul, Miss Kwanchai, B.A., (Chulalongkorn University, Bankok, Thailand); Graduate Student, Department of Experimental Statistics, North Carolina State College, Raleigh, North Carolina.

Bielenstein, Miss Ursala M., B.Sc., (University of Alberta, Canada); Graduate Student, Department of Mathematics, University of Alberta, Edmonton, Alberta, Canada.

Bishir, John W., Ph.D., (North Carolina State College); Asistant Professor, Department of Statistics, Florida State University, Tallahassee, Florida.

Bostrom, Alan G., B.S., (Harvey Mudd College, Claremont, California); Graduate Student, University of Chicago, Chicago 37, Illinois; *5400 South Greenwood Avenue, Apt. 36, Chicago 15, Illinois.*

Braun, Stuart L., B.E.S., (Johns Hopkins University); Fellowship Student, Department of Biostatistics, University of Minnesota, Minneapolis 14, Minnesota; *4750 Central Avenue N.E., Minneapolis 21, Minnesota.*

Chacko, V. J., Ph.D., (University of California, Berkeley); Statistician, Forest Research Institute, Post Office New Forest, Dehra Dun, India.

Dharmadhikari, Sudhakar W., Ph.D., (University of California, Berkeley); Instructor, Department of Statistics, University of California, Berkeley 4, California.

Dillon, Thaddeus, M.S., (John Carroll University, University Heights, Ohio); Asisstant Professor of Mathematics, Youngstown University, 410 Wick Avenue, Youngstown, Ohio.

Eakin, Richard R., M.A., (Washington State University); N.D.E.A. Fellow, Washington State University, Pullman, Washington.

Eaves, David M., B.S., (Massachusetts Institute of Technology); Research Assistant/ Graduate Student, Department of Mathematics, University of Washington, Seattle 5, Washington.

Einbinder, Seymour K., M.S.M.E., (Stevens Institute of Technology, Hoboken, New Jersey); Chief, Analytical Section, Warheads and Special Project Laboratory, Picatinny Arsenal, Dover, New Jersey; *1 Donald Court, Wayne, New Jersey.*

Enis, Peter, B.A., (George Washington University); Graduate Teaching Assistant, George Washington University; *6040 14th Street N.W., Apt. 325, Washington 11, D. C.*

Erlander, Sven B., Fil.kand., (University of Stockholm); Assistant, Institutionen Matematisk Statistik, Norrtullsgatan 16, Stockholm, Sweden; *Vänersborgsvägen 24, Johanneshov, Sweden.*

Frank, Ove, Fil.kand., (University of Stockholm); Assistant, Institutionen Matematisk Statistik, Norrtullsgatan 16, Stockholm, Sweden; *Rådjurstigen 34, 11 Solna, Sweden.*

Gluckman, Perry M., B.S., (Stanford University); Graduate Student, Department of Statistics, Stanford University; *Box 2001, Stanford, California.*

Goldstein, Neil S., M.A., (Columbia University); Research Assistant, Columbia University, S. W. Mudd Building, 120th Street and Broadway, New York 27, New York; *165 Rockaway Parkway, Brooklyn 12, New York.*

Ginsberg, Herbert, B.A., (St. Lawrence University, Canton, New York); Statistician, Philco Corporation, Western Development Laboratories, 3875 Fabian Way, Palo Alto, California; *27112 Moody Court, Los Altos, California.*

Gustavsson, Jan O., Fil.kand., (University of Stockholm); Assistant, Institute of Mathematical Statistics, Royal Institute of Technology, Stockholm 70, Sweden; *Kryssarvägen 7, Näsbypark, Sweden.*

Hedström, Lars, Fil.kand., (University of Stockholm); Assistant, Institutionen Matematik Statistik, Norrtullsgatan 16, Stockholm, Sweden; *Slipgatan 5,* VI *Stockholm I, Sweden.*

Jung, Jan E., Fil.lic., (University of Stockholm); Research Board of the Swedish Life Insurance Companies, Mälartorget 15, VI, Stockholm C, Sweden.

Kabe, Dattatraya G., M.Sc., (University of Bombay); Graduate Associate, Wayne State University, Detroit 2, Michigan.

Lárusson, Erlendur, Fil.kand., (University of Stockholm); Statistical Research Group, Institute of Mathematical Statistics, University of Stockholm; *Kōrsbārsvägen 9, XII-A, Stockholm Ö, Sweden.*

Linder, Roger W., B.Sc., (University of Leeds); Statistician, Trans-Canada Airlines, Place Ville Marie, Montreal 2, Canada.

Loftsgaarden, Don O., B.S., (Montana State College, Bozeman); N.D.E.A. Fellowship Student, Montana State College, Bozeman, Montana; *Manhattan, Montana.*

Medhi, Jyotiprasad, Ph.D., (Université de Paris); Reader and Head, Department of Statistics, Gauhati University, India; *60 University Campus, Post Office Gauhati University, Assam, India.*

Middleswart, Frank F., M.A., (Ohio State University); Graduate Student, Department of Experimental Statistics, North Carolina State College, Box 5457, State College Station, Raleigh, North Carolina; *614½ Powell Drive, Raleigh, North Carolina.*

Nagel, Mrs. Phyllis, M.S., (University of Washington); Research Engineer, The Boeing Company—Aerospace Division, Seattle, Washington; *12452 Langston Road, Seattle 88, Washington.*

Narragon, Eugene A., M.S., (Florida State University, Tallahassee); Graduate Student, Florida State University, Tallahassee, Florida; *1623 West Call Street, Tallahassee, Florida.*

Nelson, Wayne B., M.S., (University of Illinois); N.S.F. Fellow and Teaching Assistant, University of Illinois, Urbana, Illinois.

Nilsson, Göran, Fil.kand., (Uppsala University, Sweden); Assistant, Institutionen Matematik Statistik, Norrtullsgatan 16, Stockholm, Sweden; *Liggargatan 6, Uppsala, Sweden.*

Ohlin, Jan E., Fil.kand., (University of Stockholm); Assistant, Royal Institute of Technology, Stockholm 70, Sweden; *Fregattvägen 8, Lidingö, Sweden.*

Premo, A. F. Jr., B.S., (University of Massachusetts); Reliability Engineer, North American Aviation Corporation, Los Angeles Airport, California; *327 Center Street, El Segundo, California.*

Rao, T. V. Madhava, M.S., (Michigan State University); Assistant/Graduate Student, Department of Statistics, Berkey Hall, Michigan State University, East Lansing, Michigan.

Rastogi, Suresh C., M.Sc., (Lucknow University, India); Research Assistant, University of Nebraska, Lincoln 8, Nebraska.

Saleh, Ehsanes, M.Sc., (Dacca University, Pakistan); Instructor and Graduate Student, University of Western Ontario, London, Ontario, Canada.

Santner, Joseph F., M.S., (St. Louis University); Mathematical Statistician, U. S. Department of Health, Education and Welfare, Robert A. Taft Sanitary Engineering Center, 4676 Columbia Parkway, Cincinnati 26, Ohio; *2124 Glenside Avenue, Norwood 12, Ohio.*

Sulzer, Robert L., B.A., (Brooklyn College); Assistant Statistician, New York Housing Authority, 299 Broadway, New York, New York; *2626 Homecrest Avenue, Brooklyn 35, New York.*

Tamura, Ryoji, B.S., (Tokyo Literature and Science University); Assistant Professor, Shimane University, Nishikawatsu-cho, Matsue City, Japan.

Tanaka, Masao, M.S., (Osaka University); Assistant Professor, Department of Statistics, Nara Medical College, Kashihara, Nara, Japan.

Tang, Kuang-tao, B.A., (National Taiwan University); Teaching Assistant/Graduate Student, Department of Mathematics, University of Washington, Seattle 5, Washington; *5212 18th Avenue N.E., Seattle 5, Washington.*

Tanis, Elliot A., M.S., (State University of Iowa, Iowa City); Instructor/Graduate Student, Department of Mathematics, State University of Iowa, Iowa City, Iowa.

Thompson, James W., Ph.D., (University of California, Berkeley); Instructor, Department of Statistics, University of California, Berkeley 4, California.

Vander Zwaag, Roger, M.S., (Purdue University); U. S. Public Health Service Officer, National Cancer Institute, Room 203, Manly Miles Building, 1405 South Harrison Road, East Lansing, Michigan.

Van Wagner, Frank R., M.S.E.E., (Syracuse University); Staff Statistician, International Business Machines Corporation, Monterey and Cottle Roads, San Jose, California; *1658 Fairorchard Avenue, San Jose 25, California.*

Verdonk, H. Thomas, Actuary, Folksam Insurance Company, Stockholm 20, Sweden; *Larsbodavägen 59, Stockholm, Sweden.*

TIME PERIODS FOR *ANNALS* PAPERS

WILLIAM KRUSKAL

University of Chicago

This note gives quartiles of the distributions for various time periods incurred by the first 100 manuscripts submitted during my editorship of *The Annals of Mathematical Statistics.* The papers were mostly submitted during the last half of 1958. Of the 100 submitted papers, 61 were accepted and published, while 39 were rejected or withdrawn.

TABLE OF QUARTILES, 100 SUBMITTED PAPERS

Unit: Nominal 30 Day Months

	Lower quartile	Median	Upper quartile
Submission to publication (Accepted only)	12	15	18
Submission to publication, less time in authors' hands (Accepted only)	11	13	15
Submission to decision			
Accepted	5	7	10
Rejected or withdrawn	2	5	22
All	4	7	11
Submission to decision, less time in authors' hands			
Accepted	4	6	8
Rejected or withdrawn	1	3	5
All	3	5	7
Submission to first major editorial letter			
Accepted	3	4	6
Rejected or withdrawn	1	3	5
All	2	4	5
Acceptance to publication (Accepted only)	6	8	9

In this table, date of publication has been taken as the last day of the month of issue. The first major editorial letter either accepts a manuscript, rejects it, or

suggests revisions and resubmission. The time from acceptance to publication may be longer than the actual time of publication, since authors are sometimes asked to make minor revisions or clarify typography after formal acceptance. Copies of a more detailed form of this study may be obtained from me on request, so long as the supply lasts. The more detailed version gives further quantiles, defines the time periods more carefully, and comments on the stability and meaningfulness of the observed distributions.

THE IMS SUMMER INSTITUTE ON INFERENCE IN STOCHASTIC PROCESSES

The Institute of Mathematical Statistics will hold a Summer Research Institute at Michigan State University, East Lansing, Michigan, tentatively from June 17 through July 31, 1963. The topic of the Institute is Inference in Stochastic Processes. The work of the Institute will include formal lectures as well as informal seminars, both at a research level, and will cover the following major areas: (i) estimation, testing of hypotheses and decision problems in stochastic processes; (ii) structural problems in stochastic processes having a direct bearing on and motivated by statistical problems; (iii) special inference problems in applied fields (for example, problems arising in Econometrics, Time Series, Theory of Dams, etc.). A major aim of this Summer Research Institute is to enable probabilists and statisticians working in the field of inference in stochastic processes to exchange ideas and discuss one another's work in a relaxed atmosphere. Many prominent workers in this field are expected to participate.

Funds may be available for partial support of some graduate research students. Interested graduate students should apply, with recommendations from their research professors, to Prof. G. Kallianpur, Chairman of the Institute Organizing Committee.

AIEE SYMPOSIUM ON ADAPTIVE STATISTICAL INFERENCE

The Discrete Data Systems Committee of the American Institute of Electrical Engineers in cooperation with the Moore School of Electrical Engineering will hold its second symposium on October 2–3, 1963 at the University of Pennsylvania, Philadelphia, Pa. The subject of the symposium is "Adaptive Statistical Inference" with emphasis on (a) nonparametric sequential procedures for determining models of processes, for adjustments of parameters of system models when the parameter space is too large or when not enough information is available; (b) critical discussion of the significance, novelty, practical scope and utility of recent work on adaptive procedures. Papers on theoretical contributions and on applications of adaptive statistical inference in communication, control, and pattern recognition systems should be sent to Dr. Laveen Kanal,

Philco Scientific Labs, Blue Bell, Pa. Intent of submitting a paper should be expressed by sending as soon as possible an abstract of not more than 200 words. The deadline for receipt of complete manuscripts of papers is May 20, 1963. Proceedings of the conference containing reprints of all accepted papers will be made available at the symposium.

SYMPOSIUM ON STOCHASTIC MODELS IN MEDICINE AND BIOLOGY

A symposium on stochastic models in medicine and biology will be held at the University of Wisconsin, June 12–14, 1963, sponsored by the Mathematics Research Center, U. S. Army. Both theoretical and applied aspects of the subject will be covered. The following speakers will be participating in the program: N. Arley, A. F. Bartholomay, D. G. Chapman, C. L. Chiang, W. G. Cochran, H. Cramér, J. O. Irwin, S. Karlin, H. L. Lucas, J. Neyman, I. Opatowski, A. Rappaport, W. J. Schull, N. Wiener, S. Wright.

The central Region of the Institute of Mathematical Statistics will be holding a meeting immediately following the Symposium. The program will be so arranged that all persons wishing to attend both the Symposium and the I.M.S. meeting may easily do so.

A detailed symposium program with information on registration, accommodations, etc. will be made available about March 15. Requests for this program, and all inquiries, should be addressed to Professor John Gurland, Mathematics Research Center, U. S. Army, University of Wisconsin, Madison 6, Wisconsin.

SYMPOSIUM ON CLASSICAL AND CONTAGIOUS DISTRIBUTIONS

The international symposium on the classical and contagious discrete distributions is scheduled to be held at McGill University in the third week of August, 1963 immediately before the International Statistical Institute of Ottawa. The symposium is being sponsored by the Canadian Mathematical Congress with the support of the National Research Council of Canada, the McGill University and hopefully the National Science Foundation of the United States.

The symposium is to run for about five days. Professor J. Neyman has accepted the invitation to deliver the inaugural address. About twenty specialists have expressed their desire and willingness to participate and it is possible that there can be some addition. It is expected that the proceedings of the symposium will be edited and printed. The local and travelling expenses will be met by the symposium according to the need. Further details may be obtained from Professor G. P. Patil (organizer), Department of Mathematics, McGill University, Montreal.

SUMMER OFFERINGS IN STATISTICS AT IOWA STATE UNIVERSITY

The Department of Statistics at Iowa State University will offer seven applied courses in statistical theory and methods in its two 1963 summer sessions. These courses are planned primarily for graduate students or research workers with limited mathematical backgrounds who wish to use statistical techniques intelligently for application to other fields. In addition, a course on special topics in theoretical or applied statistics may be studied at the graduate level. Senior staff members will be available during most of the summer for consultations on research or special problems. Students may register for either or both of the six-week summer sessions: June 11–July 19 and July 22–August 29. Courses will be offered in statistical methods, statistical theory, experimental designs (first session) and decision theory (first session), and survey designs (second session).

GRADUATE SUMMER SESSION OF STATISTICS IN THE HEALTH SCIENCES

The Department of Biostatistics, School of Public Health, University of North Carolina is the host institution for the sixth cooperative training program of statistics in the health sciences, to be held June 17 to July 26, 1963. The Summer Session, under a grant from the National Institutes of Health, is offering courses at nearly every academic and experience level. It is designed to meet some of the educational and training needs of those engaged in health and health-related work, and those preparing themselves for such work. The instructors will be Paul S. Anderson, Jr., Chin Long Chiang, Herbert A. David, Carl L. Erhardt, F. M. Hemphill, Daniel G. Horvitz, Eugene A. Johnson, C. C. Li, C. A. McMahan, David J. Newell and Richard D. Remington.

Stipends are available to qualified persons. Inquiries should be made to: Summer Session, Department of Biostatistics, School of Public Health, University of North Carolina, Chapel Hill, N. C.

SPONSOR'S RATE FOR MATHEMATICAL REVIEWS

The American Mathematical Society is discontinuing the practice of making *Mathematcal Reviews* available to members of sponsoring societies, of which the Institute of Mathematical Statistics is one, at a special rate. Members of the Institute who have been availing themselves of the sponsor's rate ($50 in 1962) may instead join the Society and obtain *Mathematical Reviews* during 1963 for $40, including the Society dues.

TABLES OF THE NEGATIVE BINOMIAL DISTRIBUTION

Tables of the negative binomial distribution $P(y)$ and its cumulative form $\sum P(y)$, where

$$P(y) = \binom{y-1}{k-1} r^k (1-r)^{y-k}, y = k, k+1, \cdots,$$

have been prepared by G. D. Berndt and S. J. Brocky, Headquarters Strategic Air Command. These tables cover the following ranges: $k = 1(1)15$; $y = k, k+1, \cdots, 35$; $r = 0.1(0.1)0.9(0.01)0.99$. Copies may be obtained, gratis, by writing to Gerald D. Berndt, Operations Analysis, Hq SAC, Offutt AFB, Nebraska.

PRELIMINARY ACTURIAL EXAMINATIONS PRIZE AWARDS

The winners of the prize awards offered by the Society of Actuaries to the five undergraduates ranking highest on the score of the General Mathematics Examination of the November 1962 Preliminary Actuarial Examinations are as follows: The first prize of $200 was awarded to Barry M. Simon of Harvard University. Additional prizes of $100 each went to Robert P. Goldberg, Massachusetts Institute of Technology; Michael R. Gross, Carnegie Institute of Technology; James G. Kalbfleisch, University of Toronto; and Steven F. Martineau, University of British Columbia. Information concerning these examinations can be obtained from the Society of Actuaries, 208 South LaSalle Street, Chicago 4, Illinois.

DOCTORAL DISSERTATIONS IN STATISTICS, 1962

Listed below are doctorates conferred during 1962 (except where otherwise indicated) in the United States and Canada for which the dissertations were written on topics in statistics or related fields. The university, major subject, and the title of the dissertation are given in each case. Readers are invited to notify the Editor of any omissions from the list.

Abramson, Lee R., Columbia University, major in mathematical statistics, "Sequential design of experiments with two random variables."

Adams, John W., University of North Carolina, major in statistics, "Autoregressive models and testing of hypotheses associated with these models."

Amster, Sigmund J., University of North Carolina, major in statistics, "A modified Bayes stopping rule."

Bartko, John Jaroslav, Virginia Polytechnic Institute, major in statistics, "Inference on a genetic model."

Bentley, Donald L., Stanford University, major in statistics, "Contributions to counter theory with applications to rod vision."

Beyer, William Hyman, Virginia Polytechnic Institute, major in statistics, "Symmetrical complementation designs."

Bhargava, Trikoli N., Michigan State University, major in statistics, "A stochastic model for time changes in a binary dyadic relation with application to group dynamics."

Bhuchongkul, Subha, University of California, Berkeley, major in statistics, "A class of non-parametric tests for independence in bivariate populations."

Blumenthal, Saul, Cornell University, major in statistics, "Contributions to the theory of the two-sample problem."

Bradley, James V., Purdue University, major in psychology, "An empirical investigation of the central limit theorem applied to time scores."

Bush, Norman, North Carolina State College, major in experimental statistics, "Estimating variance components in a multi-way classification."

Cacoullos, Theophilos N., Columbia University, major in mathematical statistics, "Comparing Mahalanobis distances."

Chicks, Barbara J., University of Oregon (1961), major in statistics, "k-sample rank order statistics."

Cohen, Floyd A., University of California, Los Angeles, major in mathematics, "Two-stage designs in polynomial regression."

Comer, John P., Jr., Columbia University, major in mathematical statistics, "Some stochastic approximation procedures for use in process control."

Crawford, Gordon B., Princeton University, major in mathematics, "Diffusions and Poisson collections."

Denny, John L., Jr., University of California, Berkeley, major in statistics, "Minimal dimension of sufficient statistics."

Denton, James Q., University of Oregon, major in statistics, "On the asymptotic relative efficiency of the Terpstra and Wallis-Kruskal tests."

Dharmadhikari, Sudhakar W., University of California, Berkeley, major in statistics, "Functions of finite Markov chains."

Edwards, Carol Bates, Iowa State University, major in statistics, "Multivariate and multiple Poisson distributions."

Foradori, George Thomas, North Carolina State College, major in experimental statistics, "Some non-response sampling theory for two-stage designs."

Geisler, Murray A., Stanford University, major in statistics, "Some statistical properties of simulation models used in studying inventory problems."

Gerende, Lincoln J., University of Michigan, major in biostatistics, "Some methodological problems in the study of the natural history of blood pressure: an examination of the Framingham study data."

Ghosh, Sakti Pada, University of California, Berkeley, major in statistics, "Optimum sampling theory."

Gibbons, Jean Dickinson, Virginia Polytechnic Institute, major in statistics, "The small sample power of some nonparametric tests."

Gilbert, John P., University of Chicago, major in statistics, "Random censorship."

Giri, Narayan C., Stanford University, major in statistics, "On tests with likelihood ratio criteria in some problems of multivariate analysis."

Goodman, Arnold F., Stanford University, major in statistics, "The selection of an optimum sampling partition." (Incorrect title given in 1961 list)

Gross, Alan J., University of North Carolina, major in statistics, "On the construction of burst-error-correcting codes."

Gross, Donald, Cornell University, major in operations research, "An investigation of centralized inventory control in multi-location supply systems."

Guzman, Miguel Angel, North Carolina State College, major in experimental statistics,

"Study and application of a non-linear model for the nutritional evaluation of proteins."

Hartigan, John A., Princeton University, major in mathematics, "Invariant Bayesian and non-Bayesian inversions."

Hastings, W. Keith, University of Toronto, major in mathematics, "Invariant fiducial distributions."

Herbst, Laurence J., Harvard University, major in statistics, "Periodic variances."

Hocking, Ronald R., Iowa State University, major in statistics, "Mathematical programming in statistical estimation theory."

Hughes, Edwin Joseph, Iowa State University, major in statistics, "Maximum likelihood estimation of distribution parameters from incomplete data."

Hurst, David Charles, North Carolina State College, major in experimental statistics, "Modifications of response surface techniques for biological use."

Hung, Samuel, Harvard University, major in education, "On the sampling distribution of the second of three non-trivial roots of a certain product matrix."

Iglehart, Donald L., Stanford University, major in statistics, "Dynamic programming and stationary analyses of inventory problems."

Jensen, Donald Ray, Iowa State University, major in statistics, "Influence of soil variability on optimum soil sampling and fertilizer use."

Jogdeo, Shishirkumar S., University of California, Berkeley, major in statistics, "Non-parametric tests for regression models."

Karush, Jack I., University of California, Berkeley, major in statistics, "A martingale proof of the ergodic theorem using random averages."

Knox, Samuel Roscoe, Virginia Polytechnic Institute, major in statistics, "A study of a random-mating population of fixed size."

Mallios, William Steve, North Carolina State College, major in experimental statistics, "Some aspects of linear regression systems."

Marascuilo, Leonard, University of Calfornia, Berkeley, major in biostatistics, "Statistical problems in standardization and selection of optimum doses of tuberculin."

Mehra, Krishen Lal, University of California, Berkeley, major in statistics, "Rank tests for incomplete block designs, paired-comparison case."

Mijares, Tito A., Harvard University, major in statistics, "The moments and approximate distributions of the elementary symmetric functions of the roots of a multivariate matrix."

Mohanty, S. G., University of Alberta (1961), major in mathematical statistics, "On some properties of compositions of an integer and their application to probability theory and statistics."

Monahan, Irene P., Virginia Polytechnic Institute (1961), major in statistics, "Incomplete variable designs in multivariate experiments."

Odeh, Robert E., Carnegie Institute of Technology, major in mathematics, "Some tests of the equality of variance."

Patel, Ramjibhai Madhavbhai, North Carolina State College, major in experimental statistics, "Selection among factorially classified variables."

Posten, Harry O., Virginia Polytechnic Institute (1961), major in statistics, "Power of the test of the general linear hypothesis in multivariate analysis."

Prairie, Richard Roland, North Carolina State College, major in experimental statistics, "Optimal designs to estimate variance components and to reduce product variability for nested classifications."

Puri, Madan L., University of California, Berkeley, major in statistics, "Asymptotic efficiency of a class of c-sample tests."

Quesenberry, Charles P., Virginia Polytechnic Institute (1961), major in statistics, "Some tests for outliers."

Roberts, Howard Richard, George Washington University, major in statistics, "Some results in life testing based on hypercensored samples from an exponential distribution."

Romano, Albert, Virginia Polytechnic Institute (1961), major in statistics, "A trapezoidal approximation in power spectra analysis."

Rosenberg, Lloyd, Columbia University, major in mathematical statistics, "On the machine repair problem with ancillary work."

Schwarz, Gideon E., Columbia University, major in mathematical statistics, "Asymptotic shapes of Bayes sequential testing regions."

Seo, Kenzo, Purdue University, major in mathematical statistics, "Invariant Bayes rules and sequential Bayes rules."

Smith, Gerald John, Jr., University of California, Berkeley, major in mathematics, "Continuous time, stationary Markov processes with a countable number of states."

Srivastava, Jagdish N., University of North Carolina, major in statistics, "Contributions to the construction and analysis of designs."

Srivastava, Siya Ram, Purdue University (1960), major in mathematical statistics, "The power of an analysis of variance test procedure involving some preliminary tests for certain incompletely specified models."

Stephens, Michael A., University of Toronto, major in mathematics, "The statistics of directions: the Fisher and von Mises distributions."

Stigum, Bernt Petter, Harvard University, major in economics, "Statistical decision theory for discrete stochastic processes with applications to dynamic economic theory."

Still, Harold A., Virginia Polytechnic Institute (1961), major in statistics, "Analysis of multiple covariance when the regression coefficients depend on the blocks."

Stone, Charles J., Stanford University, major in statistics, "Limit theorems for birth and death processes and diffusion processes."

Studden, William J., Stanford University, major in statistics, "Asymptotic laws for birth and death processes."

Taeuber, Richard Conrad, North Carolina State College, major in experimental statistics, "On sampling with replacement: an axiomatic approach."

Taylor, Robert J., Virginia Polytechnic Institute (1961) major in statistics, "Sequential allocation of patients in clinical trials."

Thigpen, Charles C., Virginia Polytechnic Institute (1961), major in statistics, "Distribution of the largest observation in normal samples under non-standard conditions."

Thomas, Ronald E., University of North Carolina, major in statistics, "Preemptive disciplines for queues and stores."

Thompson, James William, University of California, Berkeley, major in statistics, "Two-stage sequential designs."

Trawinski, Benon J., Virginia Polytechnic Institute (1961), major in statistics, "Selection of the best treatment in a paired-comparison experiment."

Webb, Stephen Richard, University of Chicago, major in statistics, "Incomplete factorial designs: orthogonality, non-orthogonality, and construction of designs using linear programming."

Wheelock, James Dickinson, Oregon State College, major in mathematics, "An approximate solution to the problem of random flights in a Euclidean space of N-dimensions."

Wirjosudirjo, Sunardi, University of Illinois, major in statistics, "Limiting behavior of a sequence of density ratios."

Yao, Ying, University of Chicago, major in statistics, "On the comparison of the means of two normal populations with unknown variances."

REPORT OF THE TREASURER FOR 1962

During the last year the membership of the Institute has grown by over 250 members. As of July 31, 1962 the current regular membership in the U. S. and Canada stands at 1650. Student members number approximately 304, and members outside the U. S. and Canada number 447. In addition the Institute has approximately 1400 subscribers and 48 institutional members. Despite this activity, we are faced with an increasing cost burden, primarily because of the increasing size and cost of the *Annals*. The *Annals* current average cost for each member and subscriber of the Institute is slightly more than $10.00, whereas the marginal cost is $2.60. Clearly further increases in the membership will aid us in the solution of some of our financial problems. However, other means of increasing revenue must be found in the near future to cover the other operating costs of the Institute.

In the remainder of this report I want simply to summarize the reasons for the major differences between the columns "1961 estimated" (which parallels my report of 1961) and "1961 actual" on the Summary sheet, and to explain some of the larger items in the 1962 budget.

Under revenue, two large differences exist. Subscriptions income varies in the two columns in question because of a rate increase effective 1961. The difference in the page charge item merely reflects payments coming in more promptly than expected.

Under expense, the major differences between the two columns in question are in these categories: cost of *Annals*, office salaries, and printing, stationery, and postage. The difference in the first category should be larger than it is, and in the last category smaller than it is, because an item of $1,500 for non-Annals printing expenses (reprints, etc.) was included in the "cost of Annals" category in the "estimated 1961" column and placed in the "printing, stationery, and postage" category by the auditors in the "actual 1961" column. The major portion of the difference in the "cost of *Annals*" category reflects a printers increase of 5 % and an *Annals* size larger than anticipated. The larger actual figure for office salaries reflects the necessity of two overlaps in the payment of personnel replacements and also the cost of persons performing ad hoc duties as required during the year. The category for printing, stationery, and postage reflects the cost of a membership directory (approximately $4,000.) and the cost of transferring the membership file to punched cards, as well as the increased activity of the Institute, especially due to the large number of meetings which each require a printed program and mailing to the members.

Regarding the 1962 estimated budget, which is based on the historical experience of the first 6 months of 1962, most of the items reflect nothing more dramatic than a continuing increase in activity. Revenues or expenses which decrease or increase considerably are accounted for as follows:

INSTITUTE OF MATHEMATICAL STATISTICS

Revenue and Expense Summary

	1959	1960	1961 Estimated	1961 Actual	1962 Estimated
Revenue					
Dues, Individual (U.S. & Canada)	$15,199.00	$15,549.00	$16,800.00	$16,711.28	$17,500.00
Dues, Individual (Other)	1,810.00	1,952.93	2,100.00	2,500.00	2,700.00
Dues, Institutional	2,900.00	4,800.00	4,800.00	4,500.00	4,800.00
Subscriptions	13,712.35	14,324.80	17,000.00	19,465.42	19,000.00
Investment Income	3,250.00	3,729.31	4,000.00	4,052.23	3,000.00
Sale of Back Issues	4,746.61	1,968.58	3,000.00	4,156.49	3,100.00
Page Charges	—	—	5,250.00	6,616.25	12,000.00
Other	132.22	612.64	500.00	601.31	1,600.00
Total Revenue	$41,750.90	$42,938.16	$53,450.00	$58,602.98	$63,700.00
Expenses					
Cost of Annals	$31,347.69	$32,833.89	$35,438.00	$37,077.22	$42,780.90
Office Salaries	5,839.15	5,018.90	5,500.00	7,611.34	6,000.00
Payroll Taxes	69.56	89.12	90.00	299.74	236.00
Office Expenses	2,327.21	1,622.40	2,500.00	2,564.82	4,000.00
Printing, Stationery, and Postage	1,853.76	4,276.98	2,400.00	10,373.31	6,200.00
Editorial Expense	1,765.00	5,610.00	5,200.00	4,068.61	5,600.00
Travel	174.31	1,579.57	900.00	1,314.62	1,000.00
Binding Expense	66.00	141.08	300.00	129.00	130.00
Contributions to Other Organizations	129.89	157.03	150.00	1,500.00	1,500.00
Miscellaneous Expenses	—	—	—	197.62	200.00
Capital Equipment	376.95	—	—	488.80	—
Total Expense	$43,949.52	$51,328.97	$52,478.00	$64,225.08	$67,646.90
Excess Expense Over Revenue	2,198.62	8,390.81	(972.00)	5,622.10	3,946.90
Reserve for Addition to Annals Inventory	2,670.00	2,727.00	2,976.00	*	*
Deficit	$ 4,868.62	$11,117.81	$ 2,004.00	$ 5,622.10	$ 3,946.90

* The inventory reserve policy has been changed effective 1961. The new method for computing the reserve necessary to replace back issues is explained in footnote 2 to the Balance Sheet.

Under revenues, subscription income may reach the "actual 1961" figure, but the receipts as of June 30th do not seem to so indicate. The discrepancy is small, and one for which I have no ready explanation. Investment income is down because of deficit spending required to offset the operating losses and the expense for the *Annals* index over and above the National Science Foundation subsidy. This deficit will be repaid through sale of the Index. Sale of back issues continues to decline as more libraries become established and complete their initial pur-

chases. This decline should reverse itself soon because of the general increased interest in the *Annals* subject matter on the part of research departments and corporations. Page charges will level off this year because the Institute operates its books on a cash basis. That is to say, payments and expenses are entered upon the books at the time of receipt or payment; thus, receipts of 1961 charges in 1962 swell the 1962 figure, and this factor will continue in subsequent years with the resulting stability in annual receipts.

Under expenses, the *Annals* cost figure will rise because of an increase to 1500 pages in the size limit. Office salaries show a decrease because the 1961 overlaps will not be a factor in 1962. Printing, stationery, and postage expenses will decrease because the directory expense was taken totally under 1961. An amortization increment of $1,200. is included in this category to provide for future directory printings. Because other non-repeating costs, such as moving some of the Secretary's materials to the Treasurer's Office and establishing an IBM file, were finished in 1961, this category will be reduced further in 1962.

GERALD J. LIEBERMAN

INSTITUTE OF MATHEMATICAL STATISTICS

Balance Sheet

December 31, 1961

Assets

Current Assets:			
Cash in bank—checking account		$ 8,903.56	
Cash in banks—savings accounts		74,978.32	
Investments:			
U.S. Government bonds—at cost	$8,857.25		
Savings certificate	5,000.00		
Total investments			$13,857.25
Receivables:			
Dues	$1,900.00		
Subscriptions	364.50		
Back issues of *Annals*	1,062.30		
Advertising	350.00		
Interest on bonds	50.00		
Salary advance	187.60		
Total receivables		$ 3,914.40	
Inventory of *Annals*—at cost		21,112.01	
Total assets			$122,765.54

Liabilities, Unexpended Grant and Surplus

Current Liabilities	
Accounts payable	$19,846.46
Accrued wages	672.67
Payroll taxes payable	1,580.18
Dues advanced by members	9,729.50
Advance subscriptions	9,056.65

Wald royalties payable	96.40	
Payable to other societies	1,548.35	
Total Liabilities		$ 42,530.21
Unexpended Grant:		
Grant from National Science Foundation to subsidize publication of index—Note 1		$ 5,062.29
Surplus:		
Reserve for life members	$ 2,757.50	
Reserve for replacement of *Annals* issues—Note 2	23,525.99	
Available for general purposes	48,889.55	
Total surplus		$ 75,173.04
Total liabilities, unexpended grant and surplus		$122,765.54

INSTITUTE OF MATHEMATICAL STATISTICS

Notes To Financial Statements

December 31, 1961

Note 1. The National Science Foundation in 1960 granted the Institute $22,550.00 to cover the cost of compiling an index for *Annals*, Volumes 1 through 30. Under the terms of the grant, receipts in excess of $6,000.00 (but not more than the grant) from sale of indexes during the three year period beginning with the date of publication must be returned to the Foundation. Publication is anticipated in 1962.

The December 31, 1961 unexpended balance of grant is computed as follows:

Original grant		$22,550.00
Expenditures:		
Salaries	$15,572.40	
Payroll taxes	311.99	
Travel	706.13	
Office expense	247.19	
Printing	150.00	
Services—University of Minnesota	500.00	
Total expenditures		$17,487.71
Unexpended balance of grant, December 31, 1961		$ 5,062.29

Note 2. The reserve for replacement of *Annals* issued is computed as follows:

Estimated cost to reprint 300 copies of each of Volumes 1 through 32	$44,638.00
Less inventory of back issues at December 31, 1961 (See balance sheet) which is covered by insurance	21,112.01
Reserve necessary at December 31, 1961	$23,525.99

During 1960 and 1961 a special study was made by the Finance Committee on the policy of maintaining a reserve to replace the back issues of *Annals* in case of fire or other emergency which would destroy the entire inventory. It was recommended (among other things) that the reserve be adjusted to reflect the amount necessary to reprint 300 copies of each issue of *Annals*. This report was adopted at the Twenty-fourth Annual Meeting along with the report of other standing Committees.

The estimated cost to reprint was obtained from figures supplied by Cushing-Malloy, the firm that is currently reprinting specific issues of *Annals* as required. The reduction

factor is the cost of the issues on hand at December 31, even though there is some indication that the group policy coverage furnished by Waverly Press, Inc. might base its reimbursement on expected sales value.

PUBLICATIONS RECEIVED

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ROGERS, CALVIN A. (1962). *Elements of Algebra.* John Wiley and Sons, Inc., New York. 320 pp. $5.95.

SARNDÄL, CARL-ERIK (1962). *Information from Censored Samples.* Almqvist and Wiksell, Stockholm. 120 pp.

SAVAGE, I. RICHARD (1962). *Bibliography of Nonparametric Statistics.* Harvard University Press. 284 pp.

WAGNER, HARVEY M. (1962). *Statistical Management of Inventory Systems.* John Wiley and Sons, Inc., New York. 235 pp. $8.95.

Selected Translations in Mathematical Statistics and Probability, Vol. 2 (1962). American Mathematical Society, Providence. 251 pp. $4.80.

Studies in Mathematical Analysis and Related Topics (1962). Stanford University Press. 447 pp. $10.00.