

NOTES

NEWS AND NOTICES

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

Personal Items

Dr. Nelson Blachman will spend the academic year 1964–65 in Madrid as a Fulbright lecturer, teaching communication theory at the University and at the Escuela Técnica Superior de Ingenieros de Telecomunicación while on leave from the Electronic Defense Laboratory, Sylvania Electronic Systems, Mountain View, California.

Dr. Michael Branson has accepted an appointment as Statistician with the Crookes Laboratories, Ltd., London, England.

Dr. J. P. Ecimovic, FAO Expert, has transferred from Beirut, Lebanon to the FAO Mission in Peru.

Professor Zakkula Govindarajulu has been promoted to Associate Professor of Mathematics at Case Institute of Technology.

Dr. John H. Halton has left the University of Colorado Computing Center to join the staff of the Applied Mathematics Department, Brookhaven National Laboratory, Upton, Long Island, New York, as Mathematician.

Professor Harold Hotelling is spending this year at Chapel Hill instead of teaching at the University of Buenos Aires, as he had earlier planned.

Dr. Mark Kac of the Rockefeller Institute has been named Chairman Designate, Division of Mathematics, National Academy of Sciences, National Research Council.

Dr. Richard C. Kao died earlier this year.

Professor David G. Kendall has been elected a Fellow of the Royal Society.

Dr. Harlan D. Mills has joined the International Business Machines Corporation as Manager, Systems Analysis, Federal Systems Division.

Professor Oscar Weslar has accepted an appointment at the North Carolina State University's Institute of Statistics.

New Members

The following persons have been elected to membership in the Institute

Abu-Salih, M. S., M.S., (University of Illinois); Graduate Student/Teaching Assistant, Department of Mathematics University of Illinois; 250 Altgeld Hall, Urbana, Illinois.

Agrawal, Khazan C., M.S., (University of Chicago); Graduate Student, Department of Statistics, University of Chicago; 6051 South Kimbark Avenue, Chicago, Illinois.

Barr, Donald R., M.S. (Colorado State University); Instructor, Colorado State University.

Barron, Bruce A., M.P.H., (Yale University); Graduate Student, Department of Epidemiology and Public Health, Yale University; 484 Whitney Avenue, New Haven, Connecticut.

Bather, John A., Ph.D., (Cambridge University, England); Lecturer, Statistical Laboratory, University of Manchester, England.

- Belovicz, Meyer W.**, M.B.A., (Northwestern University); Graduate Student, Department of Economics, Purdue University; *757 Graduate House, West Lafayette, Indiana.*
- Beltran, Diosdado G.**, M.S., (University of the Philippines); Captain Infantry Philippines Army and Assistant to Head, Department of Educational Development, National Defense College of the Philippines.
- Bhat, U. Narayan**, M.A., (Karnatak University, India); Lecturer, Department of Mathematics, University of Western Australia.
- Breslow, Norman Edward**, B.A., (Reed College); Graduate Student, Department of Statistics, Stanford University; *160 Stanford Avenue, Menlo Park, California.*
- Bulgren, William G.**, M.S., (State University of Iowa); Graduate Student, Department of Mathematics, State University of Iowa; *429 North Gilbert, Iowa City, Iowa.*
- Bürgi, Walter Emilio**, (Universidad del Litoral, Argentina); Statistician, Benton & Bowles Inc.; *201 East 21st. Street, Apartment 14 M., New York, New York.*
- Cain, Rolene**, A.B., (Georgia State College for Women); Graduate Student, University of Illinois; *E 40A Stadium Terrace, Champaign, Illinois.*
- Carton, Daniel**, Ph.D., (Université de Paris, France); Mathematician, Direction des Etudes et Recherches de l'Electricité De France, 12, Place des Etats. Unis, Paris 16 France; *I rue Maximilien Robespierre-ISSY-Les Moulinaux-Seine, France.*
- Crosby, David S.**, M.A., (University of Arizona); Graduate Student, Department of Mathematics, University of Arizona; *951 East Tenth Street, Apartment 33, Tucson, Arizona.*
- Defense Supply Service**—Washington, Room 1D 245, The Pentagon, Washington, D. C. 20310
- De Lucia, Luigi**, Ph.D., (Universita degli Studi di Roma, Italy); Professor, Citta Universitaria Roma; *Via Costantino 87—Roma, Italia.*
- Ditrichs, Raymond**, M.A., (State University of Iowa); Professor of Psychology, Northern Illinois University.
- Dolan, Bruce A.**, M.S., (Stanford University); Instructor in Electrical Engineering, Air Force Institute of Technology, Wright-Patterson AFB. Ohio; *624 Brookridge Drive, Dayton, Ohio.*
- Durling, Fred C.**, Student, Arlington State College; *Post Office Box 621, Mesquite, Texas.*
- Economos, Andrew M.**, M.S., (University of Florida); Graduate Student, University of California, Los Angeles; *3232 Sawtelle Blvd., Apt. 2., Los Angeles 66, California.*
- Ellenberg, Jonas Harold**, A.M., (Harvard University); Graduate Student, Department of Statistics, Harvard University; *333 East Broadway Apt. 4 D., Long Beach, New York.*
- Getoor, Ronald K.**, Ph.D., (University of Michigan); Associate Professor, Department of Mathematics, University of Washington.
- Gill, John P.**, Ph.D., (University of Texas); Head and Professor of Business Statistics, University of Alabama; *10 C, Northwood, Northport, Alabama.*
- Gilliland, Dennis C.**, M.S., (Michigan State University); Graduate Student, Department of Statistics, Michigan State University.
- Gómez, Victor R.**, Ch.E., (Universidad de Concepcion, Chile); Professor, Universidad de Concepcion, Chile.
- Gupta, Devendra**, M.S., (Patna University, India); Instructor, Department of Mathematics and Astronomy, Howard University.
- Halpern, Jerry W.**, M.S., (Stanford University); Graduate Student, Department of Statistics; *530 Crothers Memorial, Stanford, California.*
- Hansen-Harder, Inger Margrethe.**, (University of Copenhagen, Denmark); Scientific Assistant Statens Seruminstitut; Ansgers Boulevard 80, Copenhagen, Denmark; *Søl-sortevj 31, Copenhagen, F., Denmark.*
- Hinich, Melvin**, Ph.D., (Stanford University); Assistant Professor, Department of Industrial Administration, Carnegie Institute of Technology.
- Jackson, Esther C.**, A.B., (Chatham College); Mathematical Statistician, National In-

- stitutes of Health, National Institute of Neurological Diseases and Blindness, Bethesda, Maryland; *8201 16th Street, Silver Spring, Maryland.*
- Jacobs, Curtis A., A.B.**, (Hope College); Graduate Student, Department of Statistics, Michigan State University; *465 East 160th Place, South Holland, Illinois.*
- Johnson, John P., M.A.**, (University of California, Davis); Graduate Student, Department of Statistics, Iowa State University.
- Jones, Lee W. J., B.A.**, (Iowa State University); Graduate Student, Department of Statistics, Iowa State University; *216 Stonecliffe Drive, Rochester, New York.*
- Joshi, Madhukar V., M.S.**, (University of Bombay, India); Graduate Student, Department of Mathematics; Case Institute of Technology; *10834 Deering, Cleveland 6, Ohio.*
- Kabir, A. B. M. Lutful, M.S.**, (Dacca University, Pakistan); Graduate Student, Department of Mathematics, University of Western Ontario, Canada.
- Kelly, Douglas G., M.A.**, (Indiana University); Teaching Assistant/Graduate Student, Department of Mathematics, Indiana University.
- Klonecki, Witold, Ph.D.**, (University of Wroclaw, Poland); Mathematical Institute University of Poznan; *Grodziska II, Poznan, Poland.*
- Ling, Robert F., M.A.**, (University of Tennessee); Assistant Professor, East Tennessee State University; *500 W. Chestnut, Apt 4, Johnson City, Tennessee.*
- McComb, Robert W., B.S.**, (University of Missouri); Corporate Statistician, McDonnell Aircraft Corporation; *550 East Swon Avenue, Webster Groves, Missouri.*
- McGrane, Franklin Joseph, Ph.D.**, (The Catholic University of America); Director, The Pine Hill Center; *6700 Needwood Road, Derwood, Maryland.*
- Maag, Urs R., M.A.**, (University of Toronto, Canada); Graduate Student/Teaching Fellow, Department of Mathematics, University of Toronto, Canada.
- Malkovich, James Francis, B.S.**, (Montana State College); Graduate Student, Department of Mathematics, Montana State College; *707 S. Grand Avenue, Bozeman, Montana.*
- Mathusz, Donald V., M.S.**, (Rensselaer Polytechnic Institute); Research Assistant to Director of Systems and Data Processing, Pitney-Bowes Corporation; *Walnut and Pacific Streets, Stamford, Connecticut.*
- Monahan, Richard H., M.S.**, (Syracuse University); Operations Analyst, Stanford Research Institute; *333 Ravenswood Avenue, Menlo Park, California.*
- Mosby, Warren A., B.A.** (University of Missouri); Graduate Student, Department of Statistics, Stanford University; *1890 Ednamary Way, Mountain View, California.*
- Peritz, Eric, M.S.**, (Hebrew University, Israel); Biostatistician, Hadassah Medical Organization, Post Office Box 499, Jerusalem, Israel; *42 Charlap Street, Jerusalem, Israel.*
- Peura, Bonita J., M.S.**, (Oregon State University); Instructor, Department of Statistics, Oregon State University.
- Rao, B. L. S. Prakasa, M.A.**, (Indian Statistical Institute, India); Graduate Assistant, Department of Statistics, Michigan State University.
- Raviv, Josef, M.A.**, (University of California, Berkeley); Student; *25 Avenida Drive, Berkeley 8, California.*
- Rosenthal, Arnold J., Ph.D.**, (Brooklyn Polytechnic Institute); Research Associate, Celanese Corporation of America, Morris Court, Summit, New Jersey; *8 Ford Hill Road, Whippany, New Jersey.*
- Ross, Alan, Ph.D.**, (Iowa State College); Associate Professor, Medical Center, University of Kentucky.
- Rossi, Philippe, M.S.**, (Université de Paris, France); Scientific development (Econometrics/Statistics) IBM-France, 5 Place Vendôme, Paris, France; *153 6B Rue Saint Honore, Paris, France.*
- Russell, C. Bradley, M.S.**, (Florida State University); Graduate Student, Department of Statistics, Florida State University.
- Sarangi, Jitendriya, M.S.**, (Utkal University, India); Graduate Student, Department of Mathematics, University of Alberta, Canada.

- Scheuenstuhl, Hans G.**, B.S., (Escola Nacional De Ciencias Estatisticas, Brazil); Graduate Student, Department of Statistics, University of North Carolina; *628-B Hibbard Street, Chapel Hill, North Carolina.*
- Scudder, Henry J. III.**, Ph.D., (University of California, Berkeley); Communications Engineer, General Electric Research Laboratory. Post Office Box 1088, Schenectady, New York.
- Selzer, Robert H.**, M.S., (University of California, Los Angeles); Graduate Student, Department of Statistics University of California, Berkeley; *2300 Ward Street, Berkeley, California.*
- Shah, Babubhai V.**, Ph.D., (University of Bombay, India); Research Analyst, Karamchand Premchand Private Ltd, 8 Waterloo Mansion, Wodehouse Road, Colaba, Bombay 2, India; *68, 3rd Bhoiwada, Bombay 2, India.*
- Singh, Jagbir**, M.S., (University Aligarh, India); Graduate Student, Department of Statistics, Florida State University.
- Smith, Dennis E.**, M.S., (University of Wisconsin); Graduate Student, Department of Statistics, University of Wisconsin; *307-A Eagle Heights Apts., Madison, Wisconsin.*
- Snell, Earl W.**, M.B.A., (Stanford University); Graduate Student, Graduate School of Business, Stanford University.
- Taga, Yasushi**, Head of Section 2, Division 3, The Institute of Statistical Mathematics. Azabu Huzimi-Tyo, Minato-ku, Tokyo, Japan.
- Tainiter, Melvin**, M.S., (New York University); Research Staff Assistant, Carlye Barton Laboratory, Johns Hopkins University.
- Terragno, Paul J.**, M.S., (University of Wyoming); Associate Statistician, West at Research Analysts, Inc., 1395 Allison Street, Denver, Colorado; *10404 Rockville Pike, Rockville, Maryland.*
- Thompson, William E.**, Ph.D., (Purdue University); Staff Research Scientist, Defense Research Laboratory, General Motors Corporation, Box T, Santa Barbara, California; *436 Amherst N.E. Albuquerque, New Mexico.*
- Thornby, John I.**, Ph.D., (University of Minnesota); Assistant Professor, Department of Mathematics, Bucknell University.
- Tobias, Filbert**, B.A., (Rutgers University); Deputy Technical Director I.T.T. Data and Information Systems Division, NTDS, Dam Neck, Virginia Beach, Virginia; *413 Cold Spring Road, Virginia Beach, Virginia.*
- Van Rootselaar, B.**, Ph.D., (University of Amsterdam, Netherlands); Professor, Department of Mathematics, Agricultural University, Wageningen, Netherlands.
- Vioni, Mary C.**, M.A., (Harvard University); Graduate Student, Department of Statistics, Harvard University; *38 Thorne Street, Bridgeport, Connecticut.*
- Williams, Lois Ann (Mrs. D. E.)**, B.S., (Michigan State University); Graduate Student/Teaching Assistant, Department of Statistics, Michigan State University.
- Wilson, Robert B.**, D.B.A., (Harvard University); Assistant Professor, Western Management Science Institute, Graduate School of Business Administration, University of California, Los Angeles.
- Winston, George J.**, B.A., (Rice University); Commercial Engineer, Southwestern Bell Telephone Company, Box 5521, 308 South Akard, Dallas, Texas.
- Wyshak, Grace**, M.S., (Harvard University); Graduate Student, Department of Public Health; *32 Commonwealth Avenue, Chestnut Hill, 67 Massachusetts.*
- Yamamoto, Kunio**, M.S., (Hiroshima University, Japan); Instructor, Osaka Schoin Women's College, Japan.

ABSTRACTS TO THE MANAGING EDITOR

Hereafter, abstracts of papers should be sent not to the Editor of the *Annals* but to the Managing Editor, Professor P. L. Meyer, Department of Mathematics, Washington State University, Pullman, Washington.

INTERNATIONAL SYMPOSIUM ON MULTIVARIATE ANALYSIS

It is planned to hold an International Symposium on Multivariate Analysis at the University of Dayton, Dayton, Ohio during the period June 14–19, 1965. This symposium is sponsored by the Aerospace Research Laboratories (ARL) at Wright-Patterson Air Force Base, Ohio. ARL is a unit of the Office of Aerospace Research, the research agency of the United States Air Force. Professor Harold Hotelling has accepted the invitation to deliver the Inaugural Address. Several experts working in different areas of multivariate analysis have either accepted or indicated tentative acceptance of the invitations to present papers in the symposium. The proceedings of the symposium are planned to be edited and published. Attendance at the symposium is open to anyone interested. Further information may be obtained from Dr. P. R. Krishnaiah (organizer), Research Mathematical Statistician, Aerospace Research Laboratories, Wright-Patterson Air Force Base, Ohio, U. S. A.

REPORT OF THE MONTEREY, CALIFORNIA MEETING OF THE INSTITUTE OF MATHEMATICAL STATISTICS

The ninety-ninth meeting of the Institute of Mathematical Statistics was held on January 29–30, 1964. This meeting was co-sponsored by the Office of Naval Research, and took place immediately after the Symposium on System and Control Optimization, at the U. S. Naval Postgraduate School in Monterey, California. One hundred twelve persons were registered.

Program

Wednesday, January 29, 1964

12:00 Registration

1:30 p.m.—Invited Papers I

Chairman: D. CHAPMAN, University of Washington, and University of California at San Diego

1. *Non-Parametric Maximum Likelihood Estimation*, S. C. SAUNDERS, Boeing Scientific Research Laboratory (joint work with G. B. CRAWFORD, Boeing Scientific Research Laboratory).
2. *Approximations to the Distributions of Quadratic Forms*, M. M. SIDDIQUI, National Bureau of Standards.
3. *Pseudo Inverses in the Analysis of Variance*, P. W. M. JOHN, University of California at Davis.

4:00 p.m.—Contributed Papers I

Chairman: R. F. TATE, University of Washington

1. *Linear Regression of Adjacent Order Statistics*, T. S. FERGUSON, University of California at Los Angeles.
2. *Max-m Distributions in the Theory of the Type-II Particle Counter and the Infinitely-Many-Server Queue*, J. L. GASTWIRTH, Stanford University.
3. *Differentiable Distribution-Function Processes*, C. H. KRAFT, University of Minnesota.
4. *On Optimum Estimates of Parameters of Continuous Distributions*, NANCY R. MANN, ROCKETDYNE, Inc.
5. *On Selecting a Subset of Normal Populations Containing the Population Whose Mean*

Has the Largest Absolute Value, M. H. RIZVI, University of Minnesota and Aerospace Research Laboratories.

6. *Optimum Classification Rules*, M. S. SRIVASTAVA, University of Toronto.

8:30 p.m.—Informal Party

Thursday, January 30, 1964

8:30 a.m.—Contributed Papers II

Chairman: J. R. BORSTING, U. S. Naval Postgraduate School

1. *Variances of Estimates of Variance Components in a Three-Way Classification*, W. R. BLISCHKE, TRW Space Technology Laboratories.
2. *Explicit Results for the Probability Density of the First-Passage Time for Two Classes of Gaussian Processes*, C. B. MEHR, IBM Research Laboratory and Purdue University (joint work with J. A. McFADDEN, Purdue University and Stanford University).
3. *Admissibility of Monotone Decision Functions*, J. M. MOSER, San Diego State College.
4. *Reversal of Lyapunov's Inequality and Other Inequalities for Means*, A. W. MARSHALL, Boeing Scientific Research Laboratory (joint work with I. OLKIN, Stanford University).
5. *An Application of a Generalized Gamma Distribution*, G. S. ROGERS, University of Arizona.
6. *Estimation of a Bivariate Probability Density*, V. K. MURTHY, Douglas Aircraft Co.

10:30 a.m.—Invited Papers II

Chairman: J. ROSENBLATT, University of New Mexico

Tolerance Limits for a Class of Distributions, D. L. HANSON, University of Missouri (joint work with L. H. KOOPMANS, Sandia Corporation).

1:30 p.m.—Invited Papers III

Chairman: M. SOBEL, University of Minnesota and Stanford University

1. *Stochastic Models in Genetics*, J. L. MCGREGOR, Stanford University (joint work with S. KARLIN, Stanford University).
2. *Some Aspects of Density Fluctuations Under Diffusion Equilibrium*, H. RUBEN, University of Minnesota.

3:30 p.m.—Invited Papers IV

Chairman: P. NEY, Cornell University and Stanford University

1. *Potentials for a Class of Recurrent Markov Renewal Processes*, R. A. SCHAUFLELE, Stanford University.
2. *Choquet Capacities in Information Theory and Statistics*, V. STRASSEN, University of California at Berkeley.

Contributed Papers by Title

1. *Non-Parametric Upper Confidence Bounds for $P(Y < X)$ and Confidence Limits for $P(Y < X)$ When X and Y Are Normal*, D. B. OWEN, K. J. CRASWELL, D. L. HANSON, Sandia Corporation.
2. *Asymptotic Independence of Certain Statistics Connected With Extreme Order Statistics in a Bivariate Distribution*, O. P. SRIVASTAVA, Seton Hall University.
3. *Functionals of Expectations of Order Statistics*, D. R. TRUAX, University of Oregon; T. K. MATTHES, University of Oregon.
4. *Fiducial Expectation Identities for Distributions With Group Structure* (Preliminary report), R. B. HORA, University of Minnesota; R. J. BUEHLER, University of Minnesota.

R. F. TATE
Associate Secretary

REPORT OF THE MANHATTAN, KANSAS MEETING OF THE INSTITUTE OF MATHEMATICAL STATISTICS

The one hundredth meeting of the Institute of Mathematical Statistics was held at Kansas State University, Manhattan, Kansas, on May 7, 8, and 9, 1964. This meeting was in conjunction with the meetings of the Biometric Society (ENAR) and the Section on Physical and Engineering Sciences of the American Statistical Association.

There were about 164 persons registered for the joint meetings.

PROGRAM

Thursday, May 7, 1964

10:00 a.m.—Contributed Papers I

Chairman: C. MALLOWS, Bell Telephone Laboratories

1. *Estimation of Parameters of the Logistic Distribution*, S. S. GUPTA and M. N. WAKNIS, Purdue University.
2. *Estimation of the Mean of Symmetrical Distributions*, E. L. CROW, Boulder Laboratories, National Bureau of Standards.
3. *Estimation of a Multivariate Density*, T. CACOULLOS, University of Minnesota.
4. *An Alternative Approach to Multivariate Ratio Estimation*, J. C. KOOP, North Carolina State University.

1:30 p.m.—Invited Papers on Probability Theory

Chairman: W. L. ROOT, Mathematics Research Center, U.S. Army, University of Wisconsin

1. *Local Convergence of Martingales and Law of Large Numbers*, Y. S. CHOW, Purdue University.
2. *On a Chebyshev-Type Inequality for Sums of Independent Random Variables*, S. M. SAMUELS, Purdue University.
3. *Convergence Rates in Probability Theory*, M. KATZ, University of Chicago.

3:30 p.m.—Contributed Papers II

Chairman: P. R. KRISHNAIAH, Aerospace Research Laboratories, Wright-Patterson Air Force Base

1. *A Fluctuation Theorem and a Distribution Free Test*, C. H. KRAFT and CONSTANCE VAN EEDEN, University of Minnesota.
2. *Small Sample Power of the Bivariate Sign Tests of Blumen and Hodges*, J. KLOTZ, Harvard University.
3. *On Testing the Equality of Parameters of Two Rectangular Distributions*, D. R. BARR, Aerospace Research Laboratories, Wright-Patterson Air Force Base.
4. *Some New "Goodness of Fit" Criteria and Their Limiting Distributions*, M. M. SIDDIQUI, Boulder Laboratories, National Bureau of Standards.
5. *Comparison of Two Drugs in Multi-stage Sampling Using Bayesian Decision Theory*, A. V. SMITH (Introduced by H. A. David), University of Cincinnati.

Friday, May 8, 1964

8:00 a.m.—Contributed Papers III

Chairman: C. H. KRAFT, University of Minnesota

1. *On the Estimation of Contrasts in Linear Models*, SUBHA BHUCHONGKUL and M. L. PURI, University of Thailand and Courant Institute of Mathematical Sciences, New York University.
2. *Sequential Analysis of Variance Under Random-Effects and Mixed Models*, B. K. GHOSH, Lehigh University.

3. *A Note on Monotonicity Properties of a Class of Ranking and Selection Procedures*, M. H. RIZVI, Aerospace Research Laboratories, Wright-Patterson Air Force Base.
4. *Construction of Optimum (in the Largest Root Sense) Balanced Factorial Fractions Through Linear Integer Programming*, J. N. SRIVASTAVA, University of Nebraska.

10:00 a.m.—Invited Papers on Signal Detection and Related Topics

Chairman: S. M. SAMUELS, Purdue University

1. *On the Detection and Measurement of Stochastic Signals*, W. L. ROOT, Mathematics Research Center, U.S. Army, University of Wisconsin.
2. *Representation Theory of Infinite Dimensional Processes and Some Remarks on the Prediction Problem for Hilbert Space Valued, Weakly Stationary Processes*, G. KALLIANPUR, University of Minnesota.
3. *On Best Approximate Solutions to Functional Equations Specified by Unbounded Operations with Arbitrary Range*, F. BUTLER, University of Michigan.

1:30 p.m.—Invited Papers on Stochastic Processes

Chairman: M. KATZ, University of Chicago

1. *The Problem of Representing a Stochastic Process in Terms of Its Tail Field and an Independent Sequence of Random Variables*, D. L. HANSON, University of Missouri.
2. *Stochastic Models for Phage Attachment to Bacteria*, J. GANI, Australian National University.
3. *A Duality Property in Batched Queues*, F. G. FOSTER, London School of Economics.

3:30 p.m.—Invited Papers on Theory of Survey Sampling (ENAR and IMS)

Chairman: O. P. AGGARWAL, Iowa State University

1. *A New Approach to Unequal Probability Sampling Without Replacement*, J. L. CARROLL, Commonwealth Bureau of Census and Statistics, and M. O. HARTLEY, Texas A and M.
2. *Non-Response Problem—Duplication Technique*, P. S. RAO, Harvard University.
3. *Designing Analytical Surveys*, J. SEDRANSK, Iowa State University.

3:30 p.m.—Contributed Papers IV

Chairman: Z. W. BIRNBAUM, University of Washington

1. *Tables for the Studentized Largest Chi-Square Distribution and Their Applications*, J. V. ARMITAGE and P. R. KRISHNAIAH, Aerospace Research Laboratories, Wright-Patterson Air Force Base.
2. *A New Table of Percentage Points of the Beta Distribution*, H. L. HARTER, Aerospace Research Laboratories, Wright-Patterson Air Force Base.
3. *The Distribution of Products of Independent Random Cauchy Variables* (Preliminary Report), M. D. SPRINGER and W. E. THOMPSON, General Motors Corporation.
4. *Approximate Distribution Theory for Some Common Discrete Distributions* (Preliminary Report), J. V. GART, Johns Hopkins University.
5. *Simultaneous Tests for Trend and Serial Correlations for Gaussian Markov Residuals*, V. K. MURTHY, Douglas Aircraft Company and P. R. KRISHNAIAH, Aerospace Research Laboratories, Wright-Patterson Air Force Base.

Saturday, May 9, 1964

10:00 a.m.—Invited Papers on Mathematical Statistics

Chairman: M. F. NEUTS, Purdue University

1. *Irrational Fraction Approximations for Mills' Ratio*, H. RUBEN, University of Minnesota.
2. *Statistical Dependence in Precipitation Patterns*, A. M. FEYERHERM, Kansas State University.
3. *Sampling Properties of Estimators in Linear Autoregression Schemes When Trend is Present*, K. C. CHANDA and F. L. RAMSEY, Iowa State University.

Contributed Papers Presented by Title

1. *On Testing the Equality of Parameters to a Specified Value in One or More Rectangular Distributions*, D. R. BARR, USAF Academy.
2. *On the Estimation of Functional Relationships for a Finite Universe*, J. C. KOOP, North Carolina State University.
3. *On Mixtures of Perfect Probability Measures*, R. H. RODINE, Purdue University.
4. *Location and Scale Parameters and Sufficient Statistics*, V. S. HUZURBAZAR, Iowa State University.

SHANTI S. GUPTA
Associate Secretary

PUBLICATIONS RECEIVED

- BERNSTEIN, ALLEN L. (1964). *A Handbook of Statistics Solutions for the Behavioral Sciences*. Holt, Rinehart and Winston, Inc., New York. 145 pp.
- GOTTLIEB, MANUEL (1964). *Estimates of Residential Building, United States, 1840-1939*. National Bureau of Economic Research, New York. 99 pp. \$2.00.
- GUELFAND, I. M. and CHILOV, G. E. (1964). *Les Distributions, Tome II*. Translated from the Russian by S. Vasilach. Dunod, Paris. 272 pp. 42 F.
- GURLAND, JOHN (1964). *Stochastic Models in Medicine and Biology*. The University of Wisconsin Press, Madison, Wisconsin. 393 pp. \$6.00.
- HARTER, H. LEON (1964). *New Tables of the Incomplete-Gamma Function Ratio and of Percentage Points of the Chi-Square and Beta Distributions*. Aerospace Research Laboratories, U. S. Air Force, U. S. Government Printing Office, Washington, D. C. xv + 245 pp. \$2.50.
- JUSTER, F. THOMAS and SHAY, ROBERT P. (1964). *Consumer Sensitivity to Finance Rates: An Empirical and Analytical Investigation*. National Bureau of Economic Research, New York. 105 pp. \$2.50.
- SEIDEN, MARTIN H. (1964). *The Quality of Trade Credit*. National Bureau of Economic Research, New York. 129 pp. \$3.00.