

NEWS AND NOTICES

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

Personal Items

Dr. Leo Aioian, recently Head of the Mathematics Section and Senior Mathematical Consultant at Hughes Aircraft Company, has accepted a position as member of the Technical Staff at Space Technology Laboratories.

Oskar N. Anderson, the University of Munich, Germany died on February 12, 1960.

George E. P. Box has left his post as Director of the Statistical Techniques Research Group at Princeton University to take up an appointment at the University of Wisconsin as Professor of Statistics.

Mr. Roshan L. Chaddha has completed his Ph.D. degree at Virginia Polytechnic Institute. He is joining the Department of Statistics at Kansas State University and will be located at Manhattan, Kansas during the next year. The dissertation topic for the Ph.D. degree was "An Inventory Control Problem with Regular and Emergency Demands".

Georges Darmon, professor at the Institut de Statistique of the University of Paris, died on January 3, 1960.

Norman R. Draper has left Imperial Chemical Industries (Plastics Division) England to spend the academic year 1960-61 at the Army Mathematics Research Center, Madison, Wisconsin.

Dr. Seymour Geisser has returned to the National Institute of Mental Health, Washington, D. C. after having served as visiting Associate Professor at the Iowa State University during the Spring Quarter, 1960.

H. S. Graf has joined The Teleregister Corporation, Stamford, Connecticut.

Professor E. J. Gumbel (Columbia University) will participate at the June meeting of the International Statistical Institute in Tokyo and will give papers on the theory of extreme values at the Universities of Kyoto, Osaka, Tokyo (Institute of Technology), and Manila. During July he will give a course on mathematical statistics at the Chulalongkorn University, Bangkok, Thailand.

Dr. John Gurland, Professor in the Statistical Laboratory and Department of Statistics, Iowa State University, has been awarded a travel grant by the Committee on International Conference Travel Grants of the American Statistical Association, to attend the Biometric Society Symposium on Quantitative Methods in Pharmacology at the University of Leyden (Netherlands) May 10-13. Dr. Gurland will act as the official representative of the American Statistical Association at this Symposium, and will also present a paper entitled "Determination of Minute Insecticidal Residues Through Biological Assay."

Stuart T. Hadden has joined the Process Engineering Department of The Dow Chemical Company as a Systems Engineer.

F. M. Hemphill, Ph.D., formerly Professor of Public Health Statistics, School

of Public Health, The University of Michigan, was recently commissioned in the Regular Corps United States Public Health Service. He is now on duty as Scientist Director serving as Chief of the Statistical Design and Analysis Section of the Statistics and Analysis Branch of the Division of Research Grants, National Institutes of Health, Bethesda, Maryland.

Mark L. Hinkle, Jr., is currently a member of the Reliability and Maintainability Unit in General Electric Company's Light Military Electronics Department, 901 Broad Street, Utica, New York.

Palmer O. Johnson, professor of education and chairman of the department of statistics at the University of Minnesota, died at the age of 68 on January 24, 1960.

Shriniwas Keshavarao Katti completed requirements for the Ph.D. Degree in statistics at the Iowa State University in January 1960. He has joined the staff of the new Department of Statistics at the Florida State University, Tallahassee, Florida, as Assistant Professor of Statistics.

Dr. J. H. B. Kemperman, who was engaged last year at the University of Amsterdam (Netherlands), has been promoted to Professor in the Department of Mathematics and Statistics at Purdue University, Indiana.

A. I. Khinchin died at the age of 65 on November 18, 1959. Khinchin had studied and taught at the University of Moscow and V. A. Steklov Mathematical Institute.

Gilbert Lieberman, formerly a mathematician with the Naval Ordnance Laboratory, Silver Spring, Maryland, is now a Senior Engineer with The Radio Corporation of America, Camden, New Jersey.

John W. Mayne, since March 1959, has been Chief of the Operational Research Section at Supreme Headquarters Allied Powers Europe (SHAPE), Paris, France. This section is part of the SHAPE Air Defence Technical Centre's System Evaluation Group, and is concerned mainly with air defense problems of Allied Command Europe.

Robert H. Morris has been named associate director of the newly formed Business Operations Analysis Staff at Eastman Kodak Company, Rochester 4, New York, whose purpose is applying scientific and mathematical techniques as aids in analyzing a wide range of business problems.

Dr. Stanley W. Nash of the University of British Columbia has been appointed as Visiting Associate Professor at the Statistical Laboratory, Iowa State University for a period of one year beginning July 1, 1960.

José R. Padró, Assistant Professor at the University of Puerto Rico, received a Ph.S. in Mathematics from St. Louis University in June, 1960. His dissertation was written under the direction of Dr. Waldo A. Vezeau. Dr. Padró has been on leave-of-absence and sponsored by the University of Puerto Rico while doing his graduate studies. He will resume teaching at the Department of Mathematics, University of Puerto Rico, Río Piedras, Puerto Rico.

B. E. Phillips has been made Assistant Technical Director, Reliability, Ground Support Equipment in The Martin Company, Baltimore, Maryland.

Donald M. Roberts has received his Ph.D. Degree at Stanford University and has accepted an assistant professorship in the Mathematics Department at the University of Illinois.

Ernest M. Scheuer, Space Technology Laboratories, Inc., has received the Ph.D. in mathematics from U. C. L. A.

Earl A. Thomas, formerly Technical Advisor, Ballistic Missiles Division, Burroughs Corporation, has joined the staff of The Institute for Defense Analysis.

Vernon E. Weckwerth has returned as lecturer and Administrative Director of the third Graduate Session of Statistics in the Health Sciences at the University of Minnesota. Mr. Weckwerth was head of Research and Statistics for the American Hospital Association in Chicago and Assistant Director of the Hospital Research and Educational Trust. He also taught at Northwestern University last fall.

NEW MEMBERS

The following persons have been elected to membership in the Institute

- Andrews, Horace P.**, Ph.D. (Pennsylvania State University); Head Statistics Division—Research Laboratories, *Swift and Company, U. S. Yards, Chicago 9, Illinois.*
- Balintfy, Joseph L.**, Diplomas in English and Economics, (University of Technical Sciences, Budapest); Assistant Professor, *Tulane University, School of Business Administration, New Orleans 18, Louisiana.*
- Baxter, Colin Benjamin**, B.S. (University of Sheffield, England); Lecturer in Mathematics, Harrow Technical College, Watford Road, Northwick Park, Harrow-on-the-Hill, Middlesex, England; *25, Swallowbeck Avenue, Lincoln, England.*
- Beale, Evelyn M. L.**, B.A. (Cambridge University); Member of Mathematics Group, *Admiralty Research Laboratory, Teddington, Middlesex, England.*
- Berens, Alan Paul**, M.S. (Purdue University); Graduate Assistant, *Purdue University, West Lafayette, Indiana.*
- Blischke, Wallace R.**, M.S. (Cornell University); National Science Foundation Cooperative Graduate Fellow, *Cornell University, Department of Plant Breeding, Ithaca, New York.*
- Chakravarti, Indra Mohan**, D. Phil. (Sc). (University of Calcutta); Visiting Assistant Professor, *University of North Carolina, Department of Statistics, Chapel Hill, North Carolina.*
- Chow, Yuan S.**, Ph.D. (University of Illinois); Research Staff Mathematician, *I.B.M. Research Center, Yorktown Heights, New York.*
- Collins, Gwyn**, B.Sc. (Nottingham); Research Associate, Advertising Research Foundation, *3 E. 54th Street, New York City 22, New York; 63 E. 9th Street, New York City 3, New York.*
- Dagen, Herbert B.**, B.A. (City College of New York); Chief, Statistical Operations Division, U. S. Army Chemical Corps, Quality Assurance Technical Agency, Army Chemical Center, Maryland; *3710 Bowers Avenue, Baltimore 7, Maryland.*
- Davidson, Harold**, Ch. E. (Columbia University); Staff Engineer, I. B. M. Corporation—IPC-ASDD, Yorktown Heights, New York; *455 E. 14th Street, New York 9, New York.*
- Farquhar, Thomas H.**, S.B. (Massachusetts Institute of Technology); Student, Massachusetts Institute of Technology. *Cambridge 39, Massachusetts; 22 Magazine Street, Cambridge 39, Massachusetts.*

- Foster, William F.**, B.S. (U. S. Naval Academy); Lieutenant United States Navy, Student, Postgraduate School, Monterey, California, *830 Arlington Place, Monterey, California.*
- Gnedenko, Boris**, Member Academie of Science of Ukrainien SSR; Professor of Mathematics, Chief Statistical Department, Mathematical Institute of Academie of Science, Kalinine Pl. 6, Kiev, USSR; *Sverdeor Str. 10, App 2g, Kiev 3, USSR.*
- Gulotta, Charles William**, A.B. (Hunter College); Programmer, Great American Insurance Company, 99 John Street, New York, N. Y., *95-35 114th Street, Richmond Hill 18, New York.*
- Hora, Rajinder Bir**, M.S. (Panjab University, India); Associate Engineer, Boeing Airplane Company and Graduate Student at University of Washington, Boeing Airplane Company, Renton, Washington; *4738 - 16th North East, Seattle 5, Washington.*
- Kappel, Joseph George**, M.S. (University of Illinois); Assistant, Department of Mathematics, University of Illinois, Urbana, Illinois; *305 S. Urbana Avenue, Urbana, Illinois.*
- Katti, Shriniwas K.**, Ph.D. (Iowa State University); Assistant Professor, *Florida State University, Tallahassee, Florida.*
- Kenworthy, Orville O.**, M.S. (Oklahoma State); Administrative Assistant, *Ferro Corporation, 4150 E. 56th Street, Cleveland 5, Ohio.*
- King, R. Maurice, Jr.**, B.S. (University of North Carolina); Experimental Statistician, American Cyanamid Company, Stamford Labs, 1937 W. Main Street, Stamford, Connecticut; *52 Sinawoy Road, Cos Cob, Connecticut.*
- Kirchgässner, Klaus**, Dr. rer. net., (Nat.-Math. Fakultät der Universität Freiburg i.Br., Deutschland); Scientific Assistant, *Institut für Angewandte Mathematik der Universität Freiburg, i.Br., Freiburg i.Br., Deutschland, Friedrichstr. 37.*
- Ku, Hsien H.**, M.S. (Purdue University); Mathematician, National Bureau of Standards, Department of Commerce, Washington, 25, D. C.; *5439-30th Place, N.W., Washington, D. C.*
- Laue, Richard V.**, M.S. (Rutgers University); Statistician, *Bell Telephone Laboratories, Murray Hill, New Jersey.*
- Lee, Ray H.**, M.S. (Stanford University); Chief Mathematician, *Autometric Corporation, 1501 Broadway, New York City, New York.*
- Levin, Morris J.**, Ph.D. (Columbia University); Engineering Scientist, Missile Electronics and Controls Division, Radio Corporation of America, Burlington, Massachusetts; *370 Concord Avenue, Cambridge, Massachusetts.*
- McGuire, Charles Bartlett**, M.A. (University of Chicago); Economist, *Rand Corporation, 1700 Main Street, Santa Monica, California.*
- Mandis, George A.**, B.S. (Roosevelt University of Chicago); Member Operations Research Analysis, Grumman Aircraft Engineering Corporation, Bethpage, L. I., New York; *George A. Mandis and Associates, 6 Wooleys Lane, Great Neck, New York.*
- Marques Henriques, José Manuel**, (Lisbon School of Economics); Student, Lisbon School of Economics (Instituto Superior de Ciencias Economicas e Financeiras), R. do Quelhas, 6, Lisbon, Portugal; *R. do Sol, ao Rato, 57, 2º Esgº, Lisbon 2, Portugal.*
- Mehr, Cyrus B.**, M.S. Industrial Engineering (Purdue University); Instructor and part-time Student, Purdue University, West Lafayette, Indiana; *207-11 Airport Road, West Lafayette, Indiana.*
- Mohanty, Sri Gopal**, M.A. (Punjab University, India); Graduate Student, *Department of Mathematics, University of Alberta, Edmonton, Canada.*
- Montzingo, Lloyd J., Jr.**, M.A. (University of Buffalo); Instructor, *University of Buffalo, Buffalo 14, New York.*
- Murray, Charles W. Jr.**, B.A. (Duke University); Engineer, Melpar, Inc., 3000 Arlington Blvd., Falls Church, Virginia; *109 Chapel Drive, Annandale, Virginia.*
- Neuts, Marcel Fernand**, M.S. (Stanford University); Graduate Student, Department of Statistics, Stanford University, Stanford, California; *2365 Waverly Street, Palo Alto, California.*
- Nielsen, Aage Volund**, M.S. Chem. Eng. (Technical University of Denmark); Civilingenior,

- Statistical Institute of University of Copenhagen, Denmark; *Norre Alle 75, Room 544, Copenhagen O, Denmark.*
- Novick, Melvin R.**, M.A. (Roosevelt University); Student Research Assistant, Department of Statistics, University of North Carolina, Chapel Hill, North Carolina; *102C Isley Street, Chapel Hill, North Carolina.*
- Okana, K. Frederick**, M.A. (University of Minnesota); Mathematical Statistician, *National Aeronautics and Space Administration (AAR) 1520 H. Street, N.W., Washington 25, D. C.*
- Pandharipande, Vikas Raghunath**, Int. in Science (Nagpur University, India); % *Mrs. K. Pandharipande, Advocate, Ramdas Peth, Nagpur, India.*
- Posten, Harry O.**, M.S. (Kansas State University); Ph.D. Candidate, *Virginia Polytechnic Institute, Blacksburg, Virginia.*
- Rao, U. V. Ramamohana** (U. V. R.) M.A. (Andhra University, India); Graduate Assistant, *Department of Mathematics, Indiana University, Bloomington, Indiana.*
- Ray, Sudhindra Narayan**, M.S. (Calcutta University, India); Student, University of North Carolina, Chapel Hill, N. C., Department of Statistics; *308 Connor Dorm., University of North Carolina, Chapel Hill, N. C.*
- Richardson, Earle Wesley, Jr.**, A.B. (Georgetown University); Student, American University, Washington 16, D. C.; *3109 44th Street, N.W., Washington 16, D. C.*
- Schwarz, Gideon E.**, M.Sc. (Hebrew University); Graduate Student, *Department of Mathematical Statistics, Columbia University, New York 27, N. Y.*
- Shy, William H.**, M.A. (University of Georgia); Research Analyst, Kimberly-Clark Corporation, Neenah, Wisconsin; *P. O. Box 22, Neenah, Wisconsin.*
- Singh, Shorh Nath**, M.A. (Banaras Hindu University, India); Graduate Student, *Department of Statistics, University of California, Berkeley, California.*
- Soriano, Abraham**, B.S. (Rensselaer Polytechnic Institute); Industrial Engineering Department, Johns Hopkins University (Hospital), Baltimore, Md.; *3301 Saint Paul Street, Baltimore 18, Maryland.*
- Sternberg, I. Paul**, M.S. (Rutgers University); *Director, Quality Control, Whittaker Gyro, Division of Telecomputing Corporation, 16217 Lindbergh Street, Van Nuys, California.*
- Sukhatme, (Mrs.) Shashikala**, M.S. (University of Poona, India); Graduate Assistant, *Department of Statistics, Michigan State University, East Lansing, Michigan.*
- Susco, Dante V.**, M.A. (University of California, Los Angeles); Staff Member, *Los Alamos Scientific Laboratory, P.O. Box 1663, Los Alamos, New Mexico.*
- Umegaki, Hisaharu**, Ph.D. (Mathematical Institute, Tohoku University, Japan); Assistant Professor, Department of Mathematics, Tokyo Institute of Technology, Oh-okayama, Meguro-ku, Tokyo, Japan; *Akasaka Aoyama Minamicho 6-108, Minato-ku, Tokyo, Japan.*
- Van Dyke, John**, M.A. (Michigan State University); Assistant Instructor, *Department of Statistics, Michigan State University, East Lansing, Michigan.*
- Wolfe, John H.**, B. S. (California Institute of Technology); Student, Department of Psychology, University of California, Berkeley, California; *2299 Piedmont, Berkeley 4, California.*
- Wu, Shih Yen**, M.A. (Northwestern University); Assistant Professor of Economics, *Los Angeles State College, Los Angeles 32, California.*

PRELIMINARY ACTUARIAL EXAMINATIONS PRIZE AWARDS ANNOUNCED

The winners of the prize awards offered by the Society of Actuaries to the nine undergraduates ranking highest on the score of the General Mathematics Examination of the 1960 Preliminary Actuarial Examinations are as follows:

First Prize of \$200

Gitlin, Todd A.

Harvard University

Additional Prizes of \$100 each

Emerson, William R.	California Institute of Technology
Goodman, Richard H.	Harvard University
Landman, Maurice A.	Harvard University
Lorden, Gary A.	California Institute of Technology
McDonnell, Robert N.	University of Chicago
Newmeyer, John A.	California Institute of Technology
Sampson, Schuyler S.	Bowdoin College
Shulsky, Abram N.	Cornell University

The Society of Actuaries has authorized a similar set of nine prizes for 1961. Beginning in 1961, the Preliminary Actuarial Examinations will consist of two examinations: The General Mathematics Examination (based on the first two years of college mathematics), and The Probability and Statistics Examination. The 1961 Preliminary Actuarial Examinations will be prepared by the Educational Testing Service under the direction of a committee of actuaries and mathematicians, and will be administered by the Society of Actuaries at centers throughout the United States and Canada on November 16, 1960 and on May 10, 1961. The closing date for applications is April 1, 1961. Further information concerning these Examinations can be obtained from the Society of Actuaries, 208 South LaSalle Street, Chicago 4, Illinois.

RESEARCH FELLOWSHIPS IN PSYCHOMETRICS OFFERED

The Educational Testing Service is offering for 1961-62 its fourteenth series of research fellowships in psychometrics leading to the Ph.D. degree at Princeton University. Open to men who are acceptable to the Graduate School of the University, the two fellowships each carry a stipend of \$3,750 a year, plus an allowance for dependent children. These fellowships are normally renewable. Fellows will be engaged in part-time research in the general area of psychological measurement at the offices of the Educational Testing Service and will, in addition, carry a normal program of studies in the Graduate School.

Suitable undergraduate preparation may consist either of a major in psychology with supporting work in mathematics, or a major in mathematics together with some work in psychology. However, in choosing fellows, primary emphasis is given to superior scholastic attainment and research interests rather than to specific course preparation.

The closing date for completing applications is January 6, 1961. Information and application blanks will be available about September 15 and may be obtained from: Director of Psychometric Fellowship Program, Educational Testing Service, 20 Nassau Street, Princeton, New Jersey.

INSTITUTE OF MANAGEMENT SCIENCES HOLDS MEETING

The Seventh International Meeting of the Institute of Management Sciences will be held at Hotel Roosevelt, New York City, October 20-22, 1960. Among

the topics for sessions of the meeting are the following: information processing and management science, computers and simulation techniques, and mathematical methods for management science. Further information may be obtained from Mr. James Townsend, Union Carbide Corp., 270 Park Avenue, New York 17, N. Y.

SYMPOSIUM ON MATHEMATICAL OPTIMIZATION TECHNIQUES

A Symposium on Mathematical Optimization Techniques will be held on October 18, 19, and 20, 1960 at the University of California, Berkeley. The Symposium is sponsored jointly by the University of California and RAND Corporation, with twenty invited speakers presenting papers during the three-day sessions on such topics as linear, non-linear and discrete programming, variational processes: adaptive and stochastic, optimal decision processes, and optimum networks and structures. For further information, write to Robert M. Oliver, Department of Industrial Engineering, University of California, Berkeley 4, California.

UNIVERSITY OF MINNESOTA STATISTICS DEPARTMENT ESTABLISHED

During the academic year 1958-1959 the Department of Statistics was established at the University of Minnesota. The Department has supplemented and coordinated the statistical activities of the University—graduate curriculum, research, and consulting. The Department's organization involves direct appointments as well as joint appointments in mathematics and the sciences. Following is the current staff of the Faculties of Statistics: *Statistics*: L. Hurwicz, I. Olkin, D. Richter, I. R. Savage, M. Sobel; *Mathematics*: G. Baxter, M. Donsker, B. Lindgren, S. Orey, W. Pruitt, E. Reich, F. Spitzer; *Agriculture*: R. Comstock, C. Gates; *Biostatistics*: J. Bearman, J. Berkson, B. Brown, E. Johnson, R. McHugh; *Business Administration*: D. Hastings, J. Neter; *Industrial Engineering*: G. McElrath.

DOCTORAL DISSERTATIONS IN STATISTICS, 1959

The following listing was inadvertently omitted from the June 1960 issue of the *Annals*:

William Leonard Harkness, Michigan State University, major in statistics, "An Investigation of the Power Function for the Test of Independence in 2×2 Contingency Tables."

REPORT OF THE NEW YORK CITY MEETING OF THE INSTITUTE OF MATHEMATICAL STATISTICS

The eighty-fourth meeting of the Institute of Mathematical Statistics was held at Teachers College, Columbia University, on April 21–23, 1960, in conjunction with a meeting of the Biometric Society (Eastern North American Region). Program chairman for the meeting was Rosedith Sitgreaves, Teachers College; Ronald Pyke, Columbia University, was Assistant Secretary. In addition to technical sessions there were an informal party at the Columbia University Men's Faculty Club, and two coffee hours.

211 persons, including 142 members of the Institute registered for the meeting. The program of the meeting was as follows. All sessions for invited papers were jointly sponsored by the Institute and the Biometric Society.

THURSDAY, APRIL 21, 1960

10:00–12:00 a.m.—Inventory and Queueing Theory

Chairman: HOWARD LEVENE, Columbia University.

1. "*A Multi-Server Queueing Problem*," PETER E. NEY, Cornell University.
2. "*Queues in Series*," JEROME SACKS, Columbia University.
3. "*On the Transient Behavior of a Queueing Process with Batch Service*," LAJOS TAKACS, Columbia University.

1:30–2:30 p.m.—Invited Address

Chairman: BOYD HARSHBARGER, Virginia Polytechnic Institute.

1. "*Two Methods of Constructing Exact Tests*," JAMES DURBIN, University of North Carolina.

2:30–4:30 p.m.—Selected Topics I

Chairman: C. Y. KRAMER, Virginia Polytechnic Institute.

1. "*On Comparing Different Tests of the Same Hypothesis*," H. A. DAVID AND CARMEN A. PEREZ, Virginia Polytechnic Institute.
2. "*On the Replacement of Periodically Inspected Equipment*," C. DERMAN, Columbia University.
3. "*Lower Bounds on the Probability Associated with Certain Confidence Regions for the Multivariate Median*," ERNEST M. SCHEUER, U.C.L.A. and Space Technology Laboratories, Inc.

2:30–4:30 p.m.—Contributed Papers I

Chairman: MILTON SOBEL, Bell Telephone Laboratories.

1. "*A Noiseless Comma-Free Coding Theorem*," THOMAS S. FERGUSON, U.C.L.A. and Princeton University.
2. "*On Centering Infinitely Divisible Processes*," RONALD PYKE, Columbia University.
3. "*Inference About Non-Stationary Markov Chains*," RUTH Z. GOLD, Columbia University.
4. "*On Linear Estimation of a Single Parameter of a Mean Function under Second Order Disturbance*" (Preliminary Report), N. DONALD YLVISAKER, Columbia University.
5. "*Asymptotic Shapes of Optimal Stopping Regions for Sequential Testing*," (Preliminary Report), GIDEON SCHWARZ, Columbia University (Introduced by T. W. Anderson).

6. "*The Asymptotic Power of the Kolmogorov Tests of Goodness of Fit*," DANA QUADE, University of North Carolina.

FRIDAY, April 22, 1960

9:00–10:30 a.m.—Problems in Multivariate Analysis

Chairman: I. BLUMEN, Cornell University.

1. "*Multivariate Analysis in Psychology and Education*," ROLF BARGMANN, Virginia Polytechnic Institute.
2. "*Multivariate Experimental Designs*," HARRY ROSENBLATT, Federal Aviation Agency.

9:00–10:30 a.m.—Contributed Papers II

Chairman: MARVIN ZELEN, National Bureau of Standards.

1. "*Efficient Sequential Estimators with High Precision Only in a Small Interval*," ALLAN BIRNBAUM, New York University.
2. "*Asymptotic Variance as an Approximation to Expected Loss for Maximum Likelihood Estimates*," WILLIAM D. COMMINS, JR., Alexandria, Va.
3. "*Extensions of the Poisson and the Negative Binomial Distribution*," A. CLIFFORD COHEN, JR., University of Georgia.
4. "*Concerning Achievement of the Lower Bound for the Power of the Kolmogorov-Smirnov Test of Fit*," JUDAH ROSENBLATT, Purdue University.

11:00–1:00 p.m.—Some Problems in the Analysis of Variance

Chairman: DONALD A. GARDINER, Oak Ridge National Laboratory.

1. "*Analysis of Variance of Variances*," HOWARD LEVENE, Columbia University.

Discussant: ROBERT E. BECHHOFFER, Cornell University.

2. "*Properties of Model II and of Mixed Models*," LEON HERBACH, New York University.

Discussant: JACK NADLER, Bell Telephone Laboratories, Whippany, N. J.

2:30–4:30 p.m.—Problems in Medical Statistics

Chairman: JOHN W. FERTIG, School of Public Health, Columbia University.

1. "*A New Closed Sequential Scheme for Clinical Trials*," CLIVE C. SPICER, Imperial Cancer Research Fund and National Institutes of Health.
2. "*Some More Difficulties in Clinical Trials*," DONALD MAINLAND, New York University, College of Medicine.
3. "*Effects of Non-Linearity on Subjective and Objective Analyses of Hormonal Assay Data*," NATHAN MANTEL, National Institutes of Health.

2:30–4:30 p.m.—Contributed Papers III

Chairman: J. A. ZOELLNER, General Electric Co.

1. "*A Robust Approximate Confidence Interval for Components of Variance*," HOWARD LEVENE, Columbia University.
2. "*The Partition of Phenotypic Variance Based on the Genic-Environmental Interaction Model*," CECIL L. KALLER AND VIRGIL L. ANDERSON, Purdue University.
3. "*Power Functions for the Test of Independence in 2×2 Contingency Tables*," WILLIAM HARKNESS, Pennsylvania State University.
4. "*On Dependent Tests in Analysis of Variance*," S. N. ROY AND P. R. KRISHNAIAH, University of North Carolina.
5. "*On the Admissibility of a Class of Tests in Normal Multivariate Analysis*," S. N. ROY AND W. F. MIKHAIL, University of North Carolina.

6. "On a Generalization of Balanced Incomplete Block Designs," J. N. SRIVASTAVA AND S. N. ROY, University of North Carolina.
7. "Partially Balanced Arrays," I. M. CHAKRAVARTI, University of North Carolina and Indian Statistical Institute (Introduced by David B. Duncan).
8. "Multi-Stage Bayesian Lot-by-Lot Sampling Inspection," HERBERT B. EISENBERG, System Development Corporation (Introduced by Herbert T. David).

SATURDAY, APRIL 23, 1960

9:00-10:00 a.m.—Contributed Papers IV

Chairman: D. B. DUNCAN, University of North Carolina.

1. "Maximum Likelihood Characterization of the Normal Distribution," HENRY TEICHER, Purdue University.
2. "Invariant Bayes Rules (Preliminary Report), MORRIS SKIBINSKY AND KENZO SEO, Purdue University.
3. "A Central Limit Theorem for Systems of Regressions," EDWARD J. HANNAN, University of North Carolina (Introduced by David B. Duncan).
4. "Some Results on Error Correcting Non-Binary Codes," D. K. RAY-CHAUDHURI, Case Institute of Technology.

10:00-11:00 a.m.—Invited Address

Chairman: SEBASTIAN LITTAUER, Columbia University.

1. "Sampling Inspection, Prior Distributions and Cost," A. HALD, University of Copenhagen and Princeton University.

11:00-1:00 p.m.—Selected Topics II

Chairman: J. WOLFOVITZ, Cornell University.

1. "Estimation of the Correlation of Non-Stationary Random Functions," J. KAMPÉ DE FÉRIET, University of Lille and Harvard University.
2. "Statistical Sufficiency and the Foundations of Thermodynamics," B. MANDELBROT, IBM Research Center.
3. "Markov Renewal Processes of Zero Order," RONALD PYKE, Columbia University.

Contributed Papers Presented by Title

1. "Transition Probabilities for Telephone Traffic," V. E. BENEŠ, Bell Telephone Laboratories and Dartmouth College.
2. "A Representation of the Bivariate Cauchy Distribution," THOMAS S. FERGUSON, U.C.L.A. and Princeton University.
3. "On Two Methods of Unbiased Ratio and Regression Estimation," W. H. WILLIAMS, McMaster University, Ontario.
4. "A Generalization of a Theorem of Balakrishnan," N. DONALD YLVISAKER, Columbia University.
5. "An Inequality for Balanced Incomplete Block Designs," W. F. MIKHAIL, University of North Carolina.

PUBLICATIONS RECEIVED

Anuario Estadístico de España, Edición Manual, Presidencia del Gobierno, Instituto Nacional de Estadística, Ferraz 41, Madrid, Spain, 1960, 1001 pp.