NEWS AND NOTICES

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

Personal Items

Arthur Albert received his Ph.D. from Stanford University in October, 1959. He is now on a National Science Foundation Post-Doctoral Fellowship at the Institute for Mathematical Statistics in Stockholm.

Sidney Addleman is now an Associate in the Department of Statistics, Iowa State University, Ames, Iowa.

J. H. Bailey has accepted a position with IBM, Poughkeepsie, as Associate Statistician in Reliability Technology.

Harold Baker was appointed to the Department of Statistics at Iowa State University for the year 1959–60.

Donald W. Behnken has received his Ph.D. degree in Statistics from North Carolina State College. He is now with the Mathematical Analysis Section of the American Cyanamid Company at the Research Laboratory in Stanford, Connecticut.

Austin J. Bonis has taken a position as a Senior Staff Engineer (Reliability) with AC, The Electronics Division of General Motors Corporation, Milwaukee, Wisconsin.

Jean-Francois Canu, formerly a Mathematician in the Department of Defense, is now studying in preparation for the Catholic Priesthood. His address is St. Stephen's Priory, Dover, Mass.

Victor Chew, Assistant Statistician, Institute of Statistics, Raleigh, N. C. has taken up a position as Mathematical Statistician at the U. S. Naval Weapons Laboratory, Dahlgren, Virginia, effective February 1, 1960.

Ira H. Cisin, formerly Adviser on Research Design at the Human Research Office of the George Washington University, Washington, D. C., has accepted the post of Project Director of an Epidemiologic Study of Alcoholic Beverage Use, with the California Department of Public Health, Berkeley, California.

C. Philip Cox (M.A. Oxford University), Head of the Statistics Section of the National Institute for Research in Dairying, Shinfield, England, is a visiting Associate Professor of Statistics at Iowa State University for the academic year, 1958–60.

Constance E. Cox is lecturing for at least a year, beginning January 1, 1960, at the new academy set up in Djakarta, Indonesia to train statisticians and economists for government service. She is on leave from the Food and Drug Directorate, Biometrics Section, Ottawara, during this time.

Phelps P. Crump, formerly at the Brookhaven National Laboratory, is now a member of the Biometrics Department at the School of Aviation Medicine, Brooks AFB, Texas.

Earl L. Diamond has joined the faculty of the Johns Hopkins University

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School of Hygiene and Public Health, Baltimore 5, Maryland, as Assistant Professor of Public Health Administration (Chronic Diseases) and of Biostatistics. He was formerly with the Department of Biostatistics of the University of North Carolina School of Public Health.

Ronald S. Dick, formerly a Reliability Engineer with the Sperry-Rand Corporation of Great Neck, N. Y., is now working as a Reliability Engineer with the American Bosch Arma Corporation—ARMA Division, Garden City, N. Y. He still teaches night school at Queens College in the Mathematics Department.

Melvin D. Fimple has accepted employment with Sandia Corporation, Albuquerque, New Mexico, in the Statistics and Evaluation Section, Reliability Department.

Wayne Fuller (B.S., M. S. U.) was appointed Assistant Professor of Statistics at Iowa State University, beginning September, 1959.

Werner Gautschi, Professor of Mathematics at Ohio State University, died of a heart attack, October 3, 1959 in Columbus, Ohio.

John E. Gessford is now employed by International Paper Company as a Trainee in the Treasury Department.

R. Gnanadesikan left Proctor and Gamble and the University of Cincinnati on November 1, 1959 to join the Bell Telephone Laboratories as a member of the Technical Staff in the Mathematical Research Department.

William A. Golomski, formerly Director of Operations Research, Oscar Mayer and Company, Madison, Wisconsin is now Vice-President of the H. J. Mayer and Sons Company, 6811 Ashland Avenue, Chicago 36, Illinois.

I. J. Good, formerly at Government Communications Headquarters, has moved to the Admiralty Research Laboratory, Teddington, Middlesex. His private address is 58A Warren Road, Ashford, Middlesex, England.

Leo A. Goodman, Professor of Statistics and Sociology at the University of Chicago, has been awarded a Senior Post-doctoral Fellowship by the National Science Foundation and a Fellowship by the John Simon Guggenheim Memorial Foundation for the 1959–60 academic year. He is now at the Statistical Laboratory of the University of Cambridge, Cambridge, England, on a leave of absence from the University of Chicago.

William C. Guenther has accepted a position as Associate Professor of Statistics at the University of Wyoming.

Donald Guthrie, Jr., is now a Mathematician for the Naval Warfare Research Center of the Stanford Research Institute, Menlo Park, California. He was formerly Assistant Professor of Mathematics and Mechanics at the U. S. Naval Postgraduate School.

Carl Hammer accepted the position of Administrator, Technical Projects Coordination, with the Radio Corporation of America, Defense Electronics Products. His office is located at 75 Varick Street, New York 13, N Y.

Theodore W. Horner joined the Reliability and Statistics Section of Booz, Allen Applied Research, Corporation, 4921 Auburn Avenue, Bethesda, Mary-

land as a Senior Statistician in September, 1959. He was formerly Senior Operations Research Analyst at General Mills, Minneapolis, Minnesotoa.

H. Burke Horton, former Director, National Damage Assessment Center, and Director, Operations Research Office, O. C. D. M., Washington, D. C. has left government service and is now Assistant to the Vice President and General Manager, Remington-Rand UNIVAC Division, Sperry-Rand Corporation, New York City. Mr. Horton will continue in an advisory capacity as a member of the O. C. D. M. Program Advisory Committee.

William G. Howard, formerly with the Operations Analysis Office at Hq. US Air Force, has joined the staff of the Operational Sciences Laboratory of the Research Triangle Institute in Durham, N. C.

J. Stuart Hunter has accepted an appointment as a member of the Mathematics Research Center, U. S. Army, at the University of Wisconsin, Madison, Wisconsin.

Rext Hurst (Ph.D., Cornell), Director of the Statistical Laboratory, Utah State University, is a Visiting Associate Professor of Statistics at Iowa State University for the year 1959–60.

J. O. Irwin, who spent a year as Visiting Professor at the University of North Carolina, Chapel Hill, N. C., has now returned to England. His address is M.R.C. Statistical Research Unit, School of Hygiene, Kappel Street (Gower Street), London W. C. 1, England.

Emil H. Jebe, formerly Associate Professor of Statistics, Department of Statistics and Statistical Laboratory, Iowa State University, Ames, Iowa, is now a Research Mathematician, Operations Research Department, Willow Run Laboratories, The University of Michigan, Box 2008, Ann Arbor, Michigan. He is engaged in the design and analysis of experiments for systems research and development: General statistical consultation in the OR Department and for Project Michigan.

Charles Jordan, retired Professor of Mathematics at the University of Budapest, Hungary and Fellow of the Institute of Mathematical Statistics, died December 24, 1959.

Shriniwas Katti was appointed to the Department of Statistics at Iowa State University for the year 1959–60.

Nathan Keyfitz has left the Dominion Bureau of Statistics, Ottawa, Canada to take up a post as Professor of Political Economy at the University of Toronto, Canada.

Melville R. Klauber is now a graduate 'student at Stanford University, Stanford, California in the Department of Statistics.

Carl F. Kossack resigned as Chairman of the Department of Mathematics and Statistics at Purdue University, Lafayette, Indiana to accept a position as Manager of the Department of Statistics and Operations Research of IBM Research, Yorktown Heights, N. Y.

Scott Krane has accepted a position as Associate in the Department of Statistics, Iowa State University, Ames, Iowa. Krane is also the recipient of

the 1960 George W. Snedecor Award in Statistics. The award is given each year to the outstanding Ph.D. candidate and carries with it a cash award as well as a year's membership in The Institute of Mathematical Statistics and a year's subscription to *The Annals of Mathematical Statistics.*

H. O. Lancaster was appointed Associate Professor in the Department of Preventive Medicine in the University of Sydney on March 2, 1959. He has since resigned from this position to accept the appointment to the newly created Chair of Mathematical Statistics in the University of Sydney, effective June, 1959.

Harold Larson is now an Associate in the Department of Statistics, Iowa State University, Ames, Iowa.

Erich L. Lehmann has returned to the Department of Statistics of the University of California, Berkeley, California after a years leave of absence spent at the University of Zurich, Switzerland.

S. P. H. Mandel (B.A., M.A. Sydney University; Sydney, Australia), was appointed Assistant Professor at Iowa State University beginning September, 1959.

Benoit Mandelbrot, of the University of Lille, France is with the International Business Machines Research Center, Yorktown Heights, N. Y.

George F. T. Mayer died June 22, 1959.

Alan J. Mayne is now with the Electronic Computing Laboratory of the University of Leeds, England were he has been appointed to a Research Fellowship. His duties there include statistical research.

Norman Morse is now working in the Reliability Group of the General Electric Advanced Electronics Center at Ithaca, New York.

Joseph M. Moser received his Ph.D. from St. Louis University, St. Louis, Missouri in June, 1959. He has been appointed Assistant Professor in the Mathematics Department at San Diego State College, San Diego, California for the academic year 1959–60.

Joseph A. Navarro has left his position with General Electric Company to take a position with the Operations Research and Statistics Department, IBM Research at Yorktown Heights, N. Y.

Jose Nieto was appointed to the Department of Statistics at Iowa State University for the year 1959–60.

Wade A. Norton, formerly a Teaching Fellow in the Department of Mathematics at Auburn University, Alabama is now Instructor in Mathematics and Coach of B-Team Athletics at West End High School, Birmingham, Alabama.

G. B. Oakland, formerly Chief of the Statistical Research and Services, Canada Department of Agriculture, has been apointed Senior Research Statistician, the Dominion Bureau of Statistics, Ottawa, as of January 1, 1960.

Kamini M. Patwary, formerly Assistant Professor in Mathematical Statistics at Howard University, Washington, D. C., and part-time instructor in Statistics at the University of Maryland, College Park, Maryland, has now joined the World Health Organization as a Statistician in the Division of Communicable

Diseases at the Palais des Nations, Geneva. He completed the requirements for the Ph.D. in Statistics in November, 1959 and the formal degree will be conferred at the June, 1960 Commencement.

K. C. S. Pillai has returned to the Statistical Office of the United Nations at New York after spending more than three years in the Philippines where he was United Nations Senior Adviser in Mathematical Statistics and Visiting Professor of Statistics at the Statistical Center, University of the Philippines, Manila.

Paul L. Poston received the Doctorate of Business Administration from Harvard University in May, 1959. He has been appointed to the faculty of the School of Business Administration of Northeastern University, Boston, Mass. He was formerly Vice President-Actuary for the Great Lakes Mutual Life Insurance Company, Detroit, Michigan and a part-time faculty member of Wayne State University.

D. V. Rajalakshman, Professor of Statistics, University of Madras, Madras, India has taken leave of absence for a year from October, 1959 to work at the Cowles Foundation, Yale University, with a grant from the Rockefeller Foundation.

Wyman Richardson has joined the Operations Research Department of the Willow Run Laboratories, University of Michigan, Ann Arbor, Michigan.

Willard C. Riss, Jr., Professor at Knox College, Galesburg, Illinois, died November 9, 1959.

Gene Rove, former Director of Operations of the Electronics Division of Gruen Industries, has joined the Space Technology Laboratories, Inc. Van Nuys, California s a Senior Staff Engineer.

Jack Sawyer is Lecturer and Postdoctoral Research Fellow in Quantative Methodology in the Department of Sociology at the University of Chicago.

Herbert Scarf, Assistant Professor in the Statistics Department of Stanford University, Stanford, California is spending the 1959–60 academic year at the Cowles Foundation for Research in Economics at Yale.

Perry Scheinok has left Indiana University and is now an Instructor in Mathematics at Wayne State University, Detroit, Michigan.

K. C. Seal is now Senior Deputy Director, Labor Bureau, Kennedy House, Simla 4, India.

Shayle R. Searle has recently returned to New Zealand after completing three years in the Animal Husbandry Department, Cornell University. He has returned to this position as Research Statistician in the Herd Improvement Section of the New Zealand Dairy Board, Box 866, Wellington, New Zealand.

Norman C. Severo has accepted an appointment with the University of Buffalo as an Associate Professor of Mathematical Statistics.

B. V. Shah was appointed to the Department of Statistics at Iowa State University for the year 1959–60.

Richard H. Shaw is now employed as Staff Statistician with the IBM Research Center in Yorktown Heights, N. Y.

M. M. Siddiqui, formerly with the Institute of Statistics and the Social Research Center of the Punjab University, Lahore, Pakistan, is now with the Boulder Laboratory of the National Bureau of Standards, Boulder, Colorado.

Frederick A. Sorensen received the Ph.D. in Mathematics at the Carnegie Institute of Techology in June, 1959. He is employed as a Statistician at the Applied Research Laboratory of United States Steel Corporation at Monroeville, Pa. The title of his thesis was "Operating Characteristics of the Control Chart for Sample Means as a Test for Model Alternatives."

H. C. Sweeney has left Atlantic Refining Company and is now acting as a consultant in statistics for industry. His new address is 1518 Sunny Hill Lane, Havertown, Pa.

Alan E. Treloar is now Chief of a newly organized Statistics and Analysis Branch (DRG) of the National Institute of Health in Bethesda, Md. The function of the branch is to establish and maintain all necessary statistical information systems concerning the research and training grants and fellowship and training awards programs of the Public Health Service administered by the National Institutes of Health.

Donald R. Truax has been appointed to an Assistant Professorship at the University of Oregon, Eugene, Oregon.

John W. Tukey of Bell Telephone Laboratories, Murray Hill, N. J. and President of the Institute of Mathematical Statistics has been appointed to the President's Science Advisory Committee.

Raymond J. Twery, formerly with Gardner Advertising, is now a Mathematical Statistician with the Research Office of the Combat Development Experimentation Center, Fort Ord, California.

Clifford A. Wallace, Director of Quality Control for Eastman Kodak Company, Operations and Apparatus Division, Rochester, N. Y., retired from the company on January 1, 1960 after 41 years of service. He and his wife are living at 267 Oxford Street, Rochester.

Yin Huai Wang is now with RCA as Engineer and Statistician in the Electron Tube Division at their plant in Marion, Indiana.

Harry Weingarten received his Ph.D. in Mathematical Statistics from George Washington University. His thesis title was "The Law of Large Numbers and Related Theorems."

George F. Woodward has accepted the position of Manager-438 Program with the Information Systems Section, Defense Systems Department, General Electric Co., in Washington, D. C. His new address is 6411 Stratford Rd., Chevy Chase 15, Md.

Peter W. Zehma received his Ph.D. in Mathematical Statistics from Stanford University in October, 1959. He is now Assistant Professor of Mathematics at Colorado State College in Greeley, Colorado.

George Zyskind was appointed Assistant Professor of Statistics at Iowa State University beginning September 1959.

NEW MEMBERS

The following persons have been elected to membership in the Institute

Abdel-aty, Soliman Hasan, Ph.D. (University College, London University); Visiting Fellow, Princeton University, 1959–60, and Expert Statistician of The Central Ministry of Education, Cairo, U. A. R.; *20 Vandeventer Avenue, Princeton, N. J.*

Al-Doori, Younis A., M.A. (University of Oregon); Teaching Assistant, University of Washington, Seattle, Washington; *4073 Union Bay Circle, Seattle 5, Wash.* (Reinstated)

Ali, Mir. M., M.S. (University of Michigan); Teaching Fellow and Graduate Student; *Department of Mathematics, University of Toronto, Toronto, Ontario, Canada.*

Asano, Chooichiro, M.S. (Mathematical Institute, Kyushu University); Quality Control Engineer, Shionogi and Company, Osaka City, Japan; *180, Mashitashimo, Mishima Machi, Osaka Prefecture, Japan.*

Baltz, Henry J., Vice President, *Perpetual Building Association, 500 Eleventh Street, N. W., Washington 4, D. C.*

Bennett, Carl Melvin, B.S.E.E. (Alabama Polytechnic Institute); Graduate Assistant in Mathematics; *Mathematics Department, Alabama Polytechnic Institute, Auburn, Alabama.*

Berk, Robert H., M.S. (Massachusetts Institute of Technology); Student, *Department of Statistics, Harvard University, Cambridge, Mass.* (38)

Burgess, Peter Dewey, M.S. (N. C. State College); Research Staff Member, Radiation, Inc., Orlando, Florida; *2327 Middleton Ave., Winter Park, Fla.*

Carlyle, John W., M.S. (University of Washington); Associate in Electrical Engineering, University of California; *2441 Haste Street, Berkeley 4, Calif.*

Carroll, Charles L., Jr., Ph.D. (University of North Carolina); Manager of RCA Quality Analysis, Missile Test Project, RCA Service Company, Patrick Air Force Base, Florida; *109 Michigan Avenue, Melbourne, Florida.*

Cassady, Mrs. Janet Pancoast (C. F.), A.B. (Florida State University); Research Associate, Biometric Unit, New York State College of Agriculture; *Warren Hall, Cornell University, Ithaca, N. Y.*

Chatterji, Srishit Dhar, M.S. (Lucknow University); Research Assistant; *Department of Statistics, Michigan State University, East Lansing, Michigan.*

Chung, James H., Ph.D. (University of Toronto); Assistant Professor; *Department of Mathematics, University of Toronto, Ontario, Canada.*

Fountain, J. G., B.S. (University of California); Reliability Engineer; *Nortronics, Division of Northrop Corporation, 222 N. Prarie, Hawthorne, California.*

Goode, Jamie J., M.S. (Georgia Institute of Technology); Student, Department of Statistics, University of North Carolina, Chapel Hill, N. C.; *111 Johnson Street, Chapel Hill, N. C.*

Granger, Clive William John, Ph.D. (University of Nottingham, England); Lecturer in Mathematics at University of Nottingham and Visiting Fellow, Princeton University, Princeton, N. J.; *Econometrics Research Project, 92-A Nassau Street, Princeton, N. J.*

Halsted, Leonard R., M.A. (University of Michigan); Research Assistant, University of Michigan Research Institute, Ann Arbor, Michigan; *1613 East Stadium, Ann Arbor, Michigan.*

Johnson, Jerry Jon, B.S. (University of Illinois); Student, University of Illinois, Urbana, Illinois; *201 South Lincoln, Urbana, Illinois.*

Kuiper, Nicolaas Hendrik, Ph.D. (University of Leiden); *Professor of Mathematics and Statistics, Landbouwhogeschool, Wageningen, Netherlands.*

Levy, Joel, M.A. (John Hopkins University); Mathematician, Bureau of Supplies and Accounts, U. S. Navy, Washington, D. C.; *1526 17th Street, N. W.; Washington, 6, D. C.*

Mathot, Eugene F., B.S. (Massachusetts Institute of Technology); Mathematician, The Occidental Life Insurance Co. of California, Los Angeles, California; *538 East Avenue 39, Los Angeles 31, California.*

McGregor, John Ross, Ph.D. (Cambridge University); *Assistant Professor of Mathematics, University of Alberta, Edmonton, Alberta, Canada.*

McKeon, Alfred J., B.A. (George Washington University); Chief, Quality Control and Operations Research, *EOD, Bureau of the Census, FOB 3, Suitland, Md.*

Mizuki, Mikiso, M.S. (Purdue University); Graduate Student, Harvard University; *67 Dartmouth Street, Boston 16, Mass.*

Nagai, Takeaki, B.S. (Kyushu University); Student; *Mathematical Institute, Faculty of Science, Kyushu University, Fukuoka, Japan.*

Naruishi, Joseph I., M.S. (University of Illinois); Assistant Mathematician, Armour Research Foundation, 10 West 35th Street, Chicago, Illinois; *3140 South Michigan, Chicago, Illinois.*

Ogawara, Masami, Ph.D. (Kyushu University); Professor of Mathematical Statistics; *Tokyo Woman's College, Iogi, Suginami, Tokyo, Japan.*

Poirier, B. W., Zeugnis (University of Vienna, Austria); Analytical Statistician; *4500 Sixth Street, South, Arlington 4, Va.*

Prins, Hendrik Johan, Research Laboratories, N. V. Philips Gloeilampen Fabrieken, Eindhoven, Netherlands; *Allard Du Hamelstraat 83, Eindhoven, Netherlands.*

Pugh, Edward L., B.E.E. (University of Santa Clara); Associate Engineer, Ryan Aeronautical Company, Lindberg Field, San Diego, California; *Advanced Design Section, Ryan Aeronautical Company, Lindberg Field, San Diego, California.*

Sadasivan, Govindan G., M.S. (University of Trayancore); Assistant Professor of Statistics, Indian Agricultural Research Institute, Pusa, New Delhi, India; *c/o Institute of Agricultural Research Statistics, Pusa, New Delhi, India.*

Sakanashi, Genichi, M S. (University of Kyushu); Assistant Professor of Mathematics; *Hyuga Gakuin Junior College, 110 Yamato-cho, Miyazaki-shi, Kyushu, Japan.*

Siotani, Minoru, Kogaku-si (University of Tokyo); Chief of Research Room 3, Second Division; *Institute of Statistical Mathematics, 1 Azabu-fujimi-cho, Minato-ku, Tokyo, Japan.*

Slotsky, Alice W. (Mrs. Gordon J.), B.A. (Bryn Mawr College); Actuarial Trainee, Metropolitan Life Insurance Company, 1 Madison Avenue, New York, N. Y.; *Apartment 2 P, Hampton House, 123-35 82nd Road, Kew Gardens, N. Y.*

Srivastava, Siyaram, M.Sc. (Lucknow University); Graduate Teaching Assistant; *Statistical Laboratory, Purdue University, Lafayette, Indiana.*

Stone, William Matthewson, Ph.D. (Iowa State College); Associate Professor, Oregon State College, Corvallis, Oregon and Research Specialist, Boeing Airplane Company, Seattle, Washington; *15609 Ambaum Road, Seattle, Washington.* (66)

Sumerlin, William T., E.E. (Stanford University); Manager, Reliability Administration, Government and Industrial Division, Philco Corporation, 4700 Wissahickson Avenue, Philadelphia 44, Pa.; *Box 215, Radnor, Pennsylvania.*

Teitlebaum, Albert David, M.S. (McGill University); Lecturer in Mathematics, McGill University, Montreal, Canada; *Department of Mathematics, McGill University, Montreal, Canada.*

Ung, L. Tom, B.C.E. (Rensselaer Polytechnic Institute); Senior Engineer, Esso Research and Engineering Company, Florham Park; *P. O. Box 209, Madison, New Jersey.*

Walbesser, William J., M.S. (Stevens Institute of Technology); Section Head; *Cornell Aeronautical Laboratory, Box 235, Buffalo 21, New York.*

Wetherill, G. Barrie, Ph.D. (London University); Lecturer in Statistics; *Mathematics Department, Birbeck College, Malet Street, London W. C. 1, England.*

William, James S., M.S. (Agricultural and Mechanic College of Texas); Graduate Assistant; *Department of Experimental Statistics, N. C. State College, Raleigh, N. C.*

Woodall, Rosalie C., M.S. (Florida State University); Mathematical Statistician, Diamond Ordnance Fuze Laboratories, Connecticut Avenue and Van Ness Street, N. W., Washington 25, D. C.; *5315 Connecticut Avenue, N. W., Washington 15, D. C.*

AMS–IMS TRANSLATION PROGRAM

The IMS in conjunction with the AMS is sponsoring a series of translations of articles in foreign languages, particularly in Russian and Chinese. The first volume of 500 pages is now in preparation. Suggestions for articles of current interest are chiefly desired, although suggestions for older articles will also be welcome. Suggestions should be sent to Russian Translation Project, American Mathematical Society, 190 Hope Street, Providence 6, Rhode Island.

SUMMER INSTITUTE FOR COLLEGE TEACHERS

Professors T. A. Bancroft and Oscar Kempthorne of Iowa State University and Professors E. C. Bryant and Robert White, of the University of Wyoming taught for the two month duration of the 1959 Summer Institute for College Teachers of Statistics, sponsored by the National Science Foundation and presented jointly by the University of Wyoming and Iowa State University at Laramie. There were 64 participants representing colleges in 34 different states. Special weekly seminars were presented by Professors A. H. Bowker, W. E. Deming, Franklin Graybill, Morris Hansen, H. O. Hartley, D. V. Huntsberger, and H. O. Wold.

TRAINEESHIPS FOR PUBLIC HEALTH STATISTICIANS

The Public Health Service has announced the availability of traineeships for graduate training of professional public health personnel during the 1960–61 academic year.

Traineeships in public health statistics are available to qualified persons. They provide stipends from a minimum of $250 per month for a post-bachelor candidate to a maximum of $400 per month for a post-doctoral candidate and additional allowances for dependents, travel of the trainee, and academic tuition and fees.

Additional information and application forms may be secured from the Division of General Health Services, Public Health Service, U. S. Department of Health, Education, and Welfare, Washington 25, D. C.

RECOGNITION GIVEN LOYOLA LAB

The Administration of Loyola University, Chicago, Illinois, has recently given official recognition to the Loyola Psychometric Laboratory. The Laboratory has been in operation for approximately two years, both for research and for the training of graduate students in psychometrics, and publishes limited editions of its research activities.

The staff includes the following persons: H. J. A. Rimoldi (M.D., Ph.D.), Director; J. R. Devane (Ph.D.); Sister M. Canisia (Ph.D.); T. F. Grib (M. A.); and J. V. Haley (M. A.).

DOCTORIAL DISSERTATIONS IN STATISTICS, 1959

Listed below are doctorates conferred during the year 1959 in the United States 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.

James H. Abbott, University of Illinois, major in mathematics, "Topics in Information Theory."

Arthur Albert, Stanford University, major in statistics, "The Sequential Design of Experiments for Infinitely Many States of Nature."

David W. Alling, Cornell University, major in statistics, "The Representation of Follow-up Experience in Chronic Disease a Probability Process."

Abdur R. Ansari, Virginia Polytechnic Institute, major in statistics, "Two-Way Rank-Sum Tests for Variances."

Richard E. Beckwith, Purdue University, major in statistics, "Analytic and Computation Aspects of Dynamic Programming Processes of High Dimension."

Donald W. Behnken, North Carolina State College, major in experimental statistics, "Simplex-sum designs—a class of second order rotatable designs derivable from those of first order."

Vasant Prabhakar Bhapkar, University of North Carolina, major in statistics, "Contributions to the Statistical Analysis of Experiments with One or More Responses (Not Necessarily Normal.)"

Austin J. Bonis, The George Washington University, major in statistics, "Solution to Problems in Solomon Kullback's Information Theory and Statistics."

Billy J. Boyer, Purdue University, major in mathematics, "Summation of Trignometrics Series by a Generalization of the Cesaro Method."

Leroy S. Brenna, Virginia Polytechnic Institute, major in statistics, "Factorial Treatments in Lattice Designs."

Byron William Brown, Jr., University of Minnesota, major in biostatistics, "Some Properties of the Spearman Estimator in Bioassay."

Whitfield Cobb, University of North Carolina, major in statistics, "Studies in Univariate and Multivariate Variance Components Analysis Connected with Sampling from a Finite Population."

William Dollard Commins, Jr., Stanford University, major in statistics, "Asymptotic Variance as an Approximation to Expected Loss for Maximum Likelihood Estimates."

Herbert R. Domke, Harvard University, major in biostatistics, "Social Class and the Childhood Diseases."

Richard E. Dowd, Purdue University, major in mathematics, "Vector and Operator Valued Radon Measures and Distributions."

Raymond J. Dry, Harvard University, major in education, "An Application of a Theory of Pure Factor Tests to the Construction of Homogeneous Tests."

Willard L. Eastman, Harvard University, major in economics, "Linear Programming With Pattern Constraints."

Roger H. Farrell, University of Illinois, major in statistics, "Sequentially Determined Bounded Length Confidence Intervals."

Charles F. Federspiel, North Carolina State College, major in experimental statistics, "Simplex-sum Designs—a Class of Second Order Rotatable Designs Derivable From Those of First Order."

Antranig Gafarian, University of California, major in mathematical statistics, "On Confidence in Polynomial Regression." Los Angeles.

William A. Glenn, Virginia Polytechnic Institute, major in statistics, "Some Aspects of Paired-Comparison Experiments."

Charles J. Grayson, Jr., Harvard University, major in business, "Decisions Under Uncertainty: Drilling Decisions by Independent Oil and Gas Operators."

Samuel W. Greenhouse, The George Washington University, major in statistics, "Information Theory and the Statistical Problem of Discrimination."

Joseph Arthur Greenwood, Harvard University, major in statistics, "Distribution Theory of Some Angular Variates."

David Lee Hanson, Indiana University, major in probability and statistics "Contributions to Decision Theory, Ergodic Theory, and Stochastic Processes."

Madhav Pandurang Heble, Indiana University, major in statistics and probability, "Linear Estimation of Regression Coefficients; Orthogonal Matrix Polynomials & Application to Multidimensional Weakly Stationary Processes; Interpolation & Regression."

Syed A. Husain, Purdue University, major in mathematics, "Conveyance Factors and Summability of Orthogonal Expansions."

Donald G. Johnson, Purdue University, major in mathematics, "A Structure Theory for a Class Lattice Ordered Rings."

Richard M. Karp, Harvard University, major in applied mathematics, "Some Applications of Logical Syntax to Digital Computor Programming."

Morris W. Katz, University of Illinois, major in statistics, "Admissible and Minimax Estimates of Parameters in Truncated Spaces."

Thomas R. Knapp, Harvard University, major in education, "Two-group Classification in the Absence of a Criterion."

Frank Bardsley Knight, Princeton University, major in probability, "Construction of Diffusion Processes."

John J. Korbel, Harvard University, major in economics, "A Decision Unit Model for the Labor Force."

Huan Pao Kuang, University of Minnesota, major in statistics, "The Theory of the Metric Function and its Application."

James Albert Lechner, Princeton University, major in statistics, "Optimum Decision for the Comparison of Two Poisson Processes Based On Minimization."

John E. Mack, Purdue University, major in mathematics, "The Order Dual of the Space of Radon Measures."

Frank G. Martin, Jr., North Carolina State College, major in experimental statistics, "An Empirical Study of the Effect of Linkage on Progress from Selection."

Robert H. McDowell, Purdue University, major in mathematics, "Extensions of Continuous Mapping From Dense Spaces."

Benjamin H. McLemore, Jr., University of Illinois, major in statistics, "On Test Efficiency Against Normal Alternatives."

Manavazhi V. Menon, Ohio State University, major in statistics, "Interblock and Interblock Estimates."

Edward Olaf Nelson, University of Minnesota, major in mathematics, "A Solution of the Generalized Heat Flow Equation in a Bounded Region as a Wiener Integral."

Togo Nishiura, Purdue University, major in mathematics, "Analytic Theory of Continuous Transformations."

James A. Norton, Jr., Purdue University, major in statistics, "Tests of Hypotheses in the Case of Unequal Variances."

Bernard S. Pasternack, North Carolina State College, major in experimental statistics, "Reversal Functions of a Test Procedure and Their Associated Bounds when Data are Incomplete."

Richard Frederick Potthoff, University of North Carolina, major in statistics, "Multi-Dimensional Incomplete Block Designs."

Frank Proschan, Stanford University, major in statistics, "Polya-Type Distribution in Renewal Theory, with an Application to an Inventory Problem."

Malempati Madhusudana Rao, University of Minnesota, major in statistics, "Properties of Maximum Likelihood Estimators in Non-stable Stochastic Difference Equations."

Dwijendra Kumar Ray-Chaudhuri. University of North Carolina, major in statistics, "On the Application of the Geometry of Quadrics to the Construction of Partially Balanced Incomplete Block Designs and Error Correcting Binary Codes."

Donald Leonard Richter. University of North Carolina, major in statistics, "Two-Stage Experiments for Estimating a Common Mean."

Donald Merle Roberts, Stanford University, major in statistics, "Approximations to Optimal Policies in a Dynamic Inventory Model."

Perry Scheinok, Indiana University, major in probability and statistics, "The Error on Using the Asymptotic Variance and Bias of Spectrograph Estimates for Finite Observation Time."

Richard H. Shaw, Purdue University, major in statistics, "Multivariate Classification with Normal Alternatives."

Robert Silverman, Ohio State University, major in mathematics, "A Metrization for Power Sets with Applications to Combinatorial Analysis."

Frederick A. Sorensen, Carnegie Institute of Technology, major in mathematics, "Operating Characteristics of the Control Chart as a Test for Model I Alternatives."

Thomas H. Starks, Virginia Polytechnic Institute, major in statistics, "Tests of Significance for Experiments Involving Paired Comparisons."

William E. Thompson, Purdue University, major in mathematics, "Asymptotic Behavior and Stability for Systems of Nonlinear Differential Equations."

Malcolm E. Turner, North Carolina State College, major in experimental statistics, "The Single Process Law: A Study in Nonlinear Regression."

Dale Elthon Varberg, University of Minnesota, major in mathematics, "Some Radon-Nikodym Derivatives Associated with Stochastic Processes."

William T. Wells, North Carolina State College, major in experimental statistics, "Some 'Contributions to the Solution of Some Statistical Problems in the Exterior Ballistics of Spin-stabilized Rockets."

Harry Weingarten, The George Washington University, major in statistics, "The Law of Large Numbers and Related Theorems."

David Anson Woodward, University of Minnesota, major in mathematics, "A Linear Transformation of Double Wiener Integrals."

Peter Zehna, Stanford University, major in statistics, "Optimal Inventory Depletion.

Neal Zierler, Harvard University, major in mathematics, "On General Measure Theory."

William J. Zimmer, Purdue University, major in statistics, "Sampling Inspection with a Given Discriminating Power."

REPORT OF THE PRESIDENT FOR 1959

The Institute is now a going concern which rolls along on its own momentum. The year 1959 was a normal one in its progress.

The most pressing problem which confronted the Institute was the ever mounting deficit of the *Annals*. A number of measures have been adopted to deal with this. The most important of these was the institution of page charges for publication, authorized by the Council and membership of the Institute at their meetings in Washington in December. Under this system the author's institution will be billed for the publication of his papers. The decision as to whether a paper will be accepted or rejected for publication will be made solely on its merits, without reference to whether payment will be forthcoming or not, by an authority completely divorced from the financial process. Institutions will not be dunned for payment, nor will individual authors not connected with institutions be compelled to pay. It is expected that this system will work in practice so that, as usual, the financial burden will be borne by the wealthier American universities and certain agencies.

The burden of the Institute's work is borne by the members of its committees and editorial board. Most members of the Institute are very busy, but some willingly respond to a request to adopt additional burdens in the service of the Institute. I wish cordially to thank all who responded to my requests to serve on committees. The help and advice of the Secretary lightened considerably the chores of the presidency.

J. WOLFOWITZ

IMS OFFICERS, COMMITTEES, AND REPRESENTATIVES—1959

Council Members and Officers

Terms Expire 1960	*Terms Expire 1961*	*Terms Expire 1962*
David Blackwell	F. J. Anscombe	T. W. Anderson
Harold Hotelling	T. E. Harris	J. L. Hodges
Jerzy Neyman	Leo Katz	Z. W. Birnbaum
I. R. Savage	S. S. Wilks	W. Hoeffding

President: John W. Tukey   Secretary: G. E. Nicholson, Jr.
President-Elect: E. L. Lehmann   Treasurer: A. H. Bowker
Editor: W. H. Kruskal
Program Coordinator: Dorothy Morrow Gilford
Associate Secretaries: Central: Jack Silber
                                  Eastern: Joan Rosenblatt
                                  Western: Gerald J. Lieberman

Chairmen of Committees

IMS COMMITTEE ON EXCHANGES: P. S. Dwyer

IMS COMMITTEE ON FELLOWS: Z. W. Birnbaum

IMS FINANCE COMMITTEE: Howard Levene

IMS MEMBERSHIP COMMITTEE: Benjamin Epstein

IMS COMMITTEE ON INSTITUTIONAL MEMBERS: Mervin Muller

IMS COMMITTEE ON PROFESSIONAL STANDARDS: Joseph Levy

IMS PROGRAM COMMITTEE FOR 1959 ANNUAL MEETING: Emanuel Parzen

IMS PROGRAM COMMITTEE FOR 1959 EASTERN REGIONAL: Boyd Harshbarger

IMS PROGRAM COMMITTEE FOR 1959 CENTRAL REGIONAL: Franklin Graybill

IMS COMMITTEE FOR SPECIAL INVITED PAPERS: K. L. Chung

IMS SUBSCRIPTIONS COMMITTEE: Edward Coleman

AD HOC COMMITTEE TO INVESTIGATE THE POSSIBILITY OF BILLING FOR PUBLICATION IN THE *ANNALS:* A. M. Mood

IMS COMMITTEE ON MATHEMATICAL TABLES: D. B. Owen

IMS COMMITTEE ON RUSSIAN TRANSLATIONS: Ingram Olkin

IMS REPRESENTATIVE TO AAAS: Harold Hotelling

AMERICAN STANDARDS ASSOCIATION COMMITTEE ON STATISTICAL NOMENCLATURE IMS REPRESENTATIVE: P. G. Hoel

IMS REPRESENTATIVE IN DIVISION OF MATHEMATICS NATIONAL RESEARCH COUNCIL: W. Allen Wallis

REPRESENTATIVES TO CONFERENCE ORGANIZATION OF THE MATHEMATICAL SCIENCES: W. Murray Rosenblatt, Z. W. Birnbaum

IMS COMMITTEE TO ORGANIZE 1960 ANNUAL MEETING: E. W. Barankin

REPRESENTATIVE TO ORGANIZING COMMITTEE OF 4TH. BERKELEY SYMPOSIUM: Herbert Robbins

IMS COMMITTEE FOR 25TH. ANNIVERSARY: Boyd Harshbarger

IMS 1960 NOMINATING COMMITTEE: Samuel Karlin

REPORT OF THE LAFAYETTE, INDIANA MEETING OF THE INSTITUTE OF MATHEMATICAL STATISTICS

The 1960 Central Regional Meeting, eighty-third meeting of the Institute of Mathematical Statistics was held at Purdue University, Lafayette, Indiana on April 7-9, 1960. The meetings were held jointly with the Biometric Section and the Section for Physical and Engineering Sciences of the American Statistical Association. Ninety-Eight people registered for the meetings. Registration and all technical sessions were held at the Purdue Memorial Center on the Purdue Campus. The appointed officiers for the meeting were Program Coordinator,

D. M. Gilford, Office of Naval Research; Associate Secretary, J. Silber, Roosevelt University; Assistant Secretary, H. E. McKeon, Purdue University; Program Chairman, F. J. Anscombe, University of Chicago.

The program was as follows:

THURSDAY, APRIL 7, 1960

9:15–9:30 a.m.—Welcome to the Societies

Chairman: IRVING W. BURR, Purdue University. *Welcoming Remarks*, WILLIAM L. AYRES, Dean of the School of Science, Education and Humanities, Purdue University.

9:30–10:50 a.m.—Probability

Chairman: DONALD M. ROBERTS, University of Illinois.
1. *Characteristic Functions and Factor Closed Families*, HENRY TEICHER, Purdue University.
2. *Applications of Characteristic Functions in Statistics*, R. G. LAHA, Catholic University of America.

11:00–12:30 p.m.—Bioassay (BA/ASA and IMS)

Chairman: F. M. HEMPHILL, National Inst. of Health.
1. *The Spearman Estimator for Serial Dilution Assays*, EUGENE A. JOHNSON AND BYRON W. BROWN, University of Minnesota.
2. *Some Techniques for Establishing an Assay Standard in a Single Laboratory*, JAMES A. NORTON, Purdue University.
Discussants: PAUL MEIER, University of Chicago, AND HELEN BOZIVICH, Purdue University.

1:00–2:20 p.m.—Computers

Chairman: VIRGIL L. ANDERSON, Purdue University.
1. *The Use of Computers in Statistical Education and Research*, RAYMOND J. NELSON AND FRED C. LEONE, Case Institute of Technology.
2. *The Computer in the Construction of Mutually Orthogonal Latin Squares*, R. C. BOSE, Case Institute of Technology and University of North Carolina, I. M. CHAKRAVARTI, University of North Carolina, AND D. E. KNUTH, Case Institute of Technology.
Discussants: JOHN W. HAMBLEN, University of Kentucky, AND M. E. TERRY, Bell Telephone Laboratories.

2:30–4:20 p.m.—Mixed Topics

Chairman: GEORGE RESNIKOFF, Illinois Institute of Technology and University of Chicago.
1. *Implications of Objectivism*, RAYMOND WRIGHTON, University of Minnesota and University of Birmingham.
2. *The Effect of Grouping on Estimation*, PETER FRANK, Syracuse University.
3. *On the Problem of Construction of Orthogonal Latin Squares of Side* 4n + 2, ESTHER SEIDEN, Northwestern University.

4:30–5:30 p.m.—Special Address

Chairman: JOHAN H. B. KEMPERMAN, Purdue University.
Boundary Theory in Random Walk, J. L. DOOB, University of Illinois.

FRIDAY, APRIL 8, 1960

8:30–10:20 a.m.—Order Statistics

Chairman: F. J. ANSCOMBE, University of Chicago.
1. *Efficiencies of Estimators of Scale and Location Parameters Constructed from Order Statistics of Censored Samples*, JOHN A. TISCHENDORF, Bell Telephone Laboratories, Allentown, Pa.
2. *A Central Limit Theorem for One-Sample Non-parametric Procedures*, Z. GOVINDARAJULU, University of Minnesota.
3. *Order Statistics of Partial Sums*, J. G. WENDEL, University of Michigan.

10:30–12:20 a.m.—Theoretical Statistics

Chairman: PAUL MEIER, University of Chicago.
1. *The Relation between Sufficiency and Invariance, I: Theory*, DONALD L. BURKHOLDER, University of Illinois.
2. *The Relation between Sufficiency and Invariance, II: Applications*, W. JACKSON HALL, University of North Carolina.
3. *Optimum Property and Inadmissibility of Sequential Tests*, ROBERT A. WIJSMAN, University of Illinois.

12:45–2:20 p.m.–Truncation (SPES/ASA AND IMS)

Chairman: HARRY SMITH, Procter & Gamble Co.
1. *An Example of Estimation from Doubly Truncated Samples*, RICHARD V. LAUE, Bell Telephone Laboratories, Murray Hill, N. J.
2. *Some Tests on Parameters of the Exponential Failure Law*, SATYA DUBEY, Michigan State University.
3. *The Application of the Truncated Normal in Process Control and Inventory Study*, HARRY SMITH, AND DONALD GRACE, Procter and Gamble Company.

2:30–3:50 p.m.—Contributed Papers

Chairman: JACK SILBER, Roosevelt University.
1. *An Extension of a Theoretical Gene Model to Provide for Genic-Environmental Interaction Terms*, CECIL L. KALLER AND VIRGIL L. ANDERSON, Purdue University.
2. *On Some Extensions of Sampling with Probability Proportional to Size*, D. K. RAY-CHAUDHURI, Case Institute of Technology.
3. *Note on Significance of Differences for Attributes*, IRVING W. BURR, Purdue University.
4. *Test for Regression Coefficients when Errors are Correlated*, M. M. SIDDIQUI, National Bureau of Standards.
5. *On the Analysis of Split-Plot Experiments*, H. LEON HARTER, Wright Air Development Center.
6. *Comparison of Estimators for some Generalized Poisson Distributions*, S. K. KATTI, Florida State University, AND J. G. GURLAND, Iowa State University.
7. *Power of Some Two-Sample Distributution Free Tests*, B. V. SUKHATME, Michigan State University. (By title)
8. *Some New Single Level Continuous Sampling Plans*, JOHN S. WHITE, Minneapolis-Honeywell Regulator Company. (By title)

4:00–5:30 p.m.—Probability

Chairman: LOUIS J. COTE, Syracuse University.
1. *Remarks on the Coding Theorem*, PATRICK BILLINGSLEY, University of Chicago.
2. *Probability in the Tail of a Distribution*, MELVIN KATZ, University of Chicago.

3. *New Methods for Studying First Passage Probabilities*, JOHAN H. B. KEMPERMAN, Purdue University.

SATURDAY, APRIL 9, 1960

9:00–10:20 a.m.—Production

Chairman: HARLLEY E. McKEAN, Purdue University.
1. *A Continuous Production Model*, I. RICHARD SAVAGE, University of Minnesota.
2. *Rectifying Inspection of Lots*, F. J. ANSCOMBE, Princeton University and University of Chicago.

Discussant: IRVING W. BURR, Purdue University.

10:30–12:30 p.m.—Contributed Papers

Chairman: HARLLEY E. McKEAN, Purdue University.
1. *Generalization of Thompson's Distribution* III, ANDRÉ G. LAURENT, Wayne State University.
2. *An Expansion for the Quadrivariate Normal Integral for a Stationary Markov Process*, J. A. McFADDEN, Purdue University.
3. *Existence of Wald's Sequential Test in the General Case*, ROBERT A. WIJSMAN, University of Illinois.
4. *A Characterization of the Uniform Distribution in Compact Topological Groups*, JAMES H. STAPLETON, Michigan State University.
5. *Application to Stochastic Processes of a Uniqueness Property of the Rectangular Distribution*, HERMAN RUBIN, Michigan State University.
6. *A New Class of Sequential Decision Rules for Symmetric Problems*, W. JACKSON HALL, University of North Carolina. (By title)
7. *An Expansion for the Quadrivariate Normal Integral when $\rho_{13} = \rho_{14} = \rho_{24} = 0$*, J. A. McFADDEN, Purdue University. (By title)
8. *Nonparametric Tests for Location and Scale Parameters in a Mixed Model with Discrete and Continuous Variables*, SHASHIKALA B. SUKHATME, Michigan State University. (By title)
9. *Some Results in the Analysis of Variance*, SELIG STARR, George Washington University. (By title)
10. *Normal Approximation to the Distribution of Two Independent Binomials, Conditional on Fixed Sum*, J. HANNAN, Michigan State University, AND W. HARKNESS, Pennsylvania State University. (By title)
11. *A Characterization of Some Location and Scale Parameter Families*, SUDHISH G. GHURYE, Northwestern University. (By title)
12. *On Evaluation of Negative Binomial Distribution Function*, G. P. PATIL, University of Michigan. (By title)

PUBLICATIONS RECEIVED

Anuario Estadistico de Espana, Vol. 34, Presidencia del Gobierno, Instituto Nacional de Estadistica, Ferraz, 41, Madrid, Spain, 1959, 1099 pp.

Food and Agricultural Organization of the United Nations, *Yearbook of Fishery Statistics*, Vol. 9, New York, Columbia University Press, 1958, $4.50.

Kapur, J. N. and Saxena, H. C., *Mathematical Statistics*, Delhi India, S. Chand and Co., Rs. 10/–, 400 pp.

Proceedings of Symposia in Applied Mathematics, Vol. 9, Providence, R. I., American Mathematical Society, 1959, 195 pp.