

NEWS AND NOTICES

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

Personal Items

Dr. A. M. Atiqullah has returned to Pakistan to join the University of Dacca as Reader and Head, Department of Statistics.

John J. Bartko is with the Biometrics Branch of the National Institute of Mental Health, Bethesda, Maryland, after completing his Ph.D. at the Virginia Polytechnic Institute.

Dr. Donald G. Brennan has been elected President and Member of the Board of Trustees of the Hudson Institute, Harmon-on-Hudson, New York.

Professor T. S. Broderick, Trinity College, Dublin, Ireland, died on April fourth.

John A. Carpenter has accepted a position with the Mathematics Panel, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Dr. K. C. Chanda, formerly of Washington State University, Pullman, has been appointed Visiting Associate Professor, Statistical Laboratory and Department of Statistics, Iowa State University, for 1962-63.

Dr. Richard G. Cornell has been named director of a Biometry Training Program under a National Institutes of Health grant in the Department of Statistics, Florida State University.

Dr. John J. Gart has returned to the Johns Hopkins University with his new rank of Associate Professor. He spent 1961-62 as visiting research fellow at Birkbeck College, University of London.

Dr. Theodore E. Harris of the RAND Corporation, Santa Monica, California, will be Visiting Professor of Statistics at Stanford University during the period January-March 1963.

Carl E. Hopkins, Ph.D., M.P.H., former associate research statistician, School of Public Health, University of California at Los Angeles, is now Adjunct Associate Professor of Public Health at the University of Southern California School of Medicine.

William G. Howard, formerly of the Research Triangle Institute, Durham, North Carolina, has accepted a position on the Technical Staff of the Weapons Systems Evaluation Division of the Institute for Defense Analysis, The Pentagon, Washington, D. C.

Dr. Cuthbert C. Hurd has been elected Chairman of the Board, Computer Usage Co., Inc., New York. He will direct the Company's activities from his office in Palo Alto, California.

Dr. Solomon Kullback has retired from the Department of Defense and has been appointed Professor of Statistics at the George Washington University.

Dr. H. G. Landau of Columbia University, has been named to the Committee on Mathematical Biology, the University of Chicago. He will serve as Visiting Associate Professor.

Eugene Lukacs, Professor of Mathematics, who spent the fall term 1961 as Visiting Professor at the University of Paris, and the summer term 1962 at the Swiss Federal Institute of Technology in Zurich, is returning to Catholic University, Washington 17, D. C., to resume his duties as director of the Statistical Laboratory.

Dana Quade has left the National Institutes of Health to accept the post of Assistant Professor of Biostatistics at the University of North Carolina School of Public Health.

Dr. Albert Romano is the recipient of a National Research Council-National Bureau of Standards award and has been appointed to a year of Postdoctoral Resident Research at the Bureau of Standards' Washington office. He will investigate the effects of violations of assumptions in reliability life-test studies under Dr. Churchill Eisenhart.

Dr. Minoru Siotani of the Institute of Statistical Mathematics, Tokyo, Japan, is visiting Stanford University for the 1962-63 academic year as Research Associate.

Dr. Morris Skibinsky, on extended leave from Purdue University, is Visiting Associate Professor of Statistics, University of Minnesota, for 1962-63.

Professor Oscar Wesler, currently on sabbatical leave from the Department of Mathematics, University of Michigan, is spending the academic year as Visiting Professor of Statistics at Stanford University.

G. N. Wilkinson has been named Principal Research Officer, CSIRO Division of Mathematical Statistics, the University of Adelaide, South Australia.

Dr. Harry Weingarten, formerly with the Special Projects Office, Navy Department, is now with the United States Arms Control and Disarmament Agency.

The following persons have been elected to membership in the Institute

New Members

- Alam, Khursheed**, M.Sc., (Patna University, India); Graduate Student, 416 Johnston Hall, University of Minnesota, Minneapolis 14, Minnesota.
- Andrew, Gary M.**, B.S., (Case Institute of Technology); Graduate Fellow, Department of Management, Operations Research Group, Case Institute of Technology, Cleveland 6, Ohio.
- Arakaparampil, Mathai M.**, M.A., (University of Toronto); Canadian Commonwealth Scholar, Department of Mathematics, University of Toronto, Toronto 5, Canada.
- Badler, Miss Clara Elizabeth**, B.A., (Universidad Nacional del Litoral Argentina); Assistant Instructor, Instituto de Estadística, Universidad Nacional del Litoral, Rosario, Santa Fe, Argentina; *Derrego 1036, Rosario, Santa Fe, Argentina.*
- Barker, Dana W.**, B.A., (Western Reserve University, Ohio); Operations Analyst, Technical Operations, Inc., Post Office Box 116, Fort Belvoir, Virginia.
- Barnett, Victor D.**, M.Sc., (University of Manchester, England); Assistant Lecturer, Statistical Laboratory, University of Manchester, Manchester 13, England.
- Basinger, Richard G.**, M.A., (University of Kansas); Student, University of Kansas, Lawrence, Kansas; *1324 West 19th Terrace, Lawrence, Kansas.*
- Baur, Eberhard, H.**, Ph.D., (University of Innsbruck, Austria); Member of the Technical Staff, Land-Air, Inc., Pacific Missile Range, Point Mugu, California.

- Baxter, Glen E.**, Ph.D., (University of Minnesota); Professor of Mathematics, University of Minnesota, Minneapolis 14, Minnesota.
- Berrios-Berrios, José**, M.A., (Fordham University, New York); Assistant Professor, College of Agriculture and Mechanic Arts, University of Puerto Rico, Mayaguez, Puerto Rico.
- Berterman, John E.**, M.A., (Cornell University); Project Scientist, Booz-Allen Applied Research, Inc., 4815 Rugby Avenue, Bethesda 14, Maryland.
- Bramblett, Jerry Earl**, B.S., (Yale); Graduate Student, Columbia University, New York 27, New York; *125 Hill Street, Smyrna, Georgia.*
- Bucy, Richard Snowden**, B.S., (Massachusetts Institute of Technology); Research Assistant, Department of Statistics, University of California, Berkeley 4, California.
- Burdick, Donald S.**, Ph.D., (Princeton University); Assistant Professor, Duke University, Durham, North Carolina.
- Calianese, Alessandro C.**, M.S., (University of Notre Dame); Mathematics Instructor, St. Peter's College, 2641 Hudson Blvd., Jersey City, New Jersey.
- Carlborg, Frank W.**, M.S., (University of Illinois); Student, University of Chicago, Chicago 37, Illinois.
- Case, C. Marston**, B.A., (University of Chicago); Statistician; University of Chicago, Chicago 37, Illinois; *5434 University Avenue, Chicago 15, Illinois.*
- Chandary, Hanamara R.**, B.A., (Madras University, India); Graduate Student, Department of Statistics, Michigan State University, East Lansing, Michigan.
- Chen, Chung Wei**, Ph.D., (Louisiana State University); Chief Statistician, Xerox Corporation, Building 12, 800 Phillips Road, Webster, New York.
- Chiu, John S. Y.**, Ph.D., (University of Illinois); Assistant Professor of Statistics, College of Business Administration, University of Washington, Seattle 5, Washington.
- Cigler, Johann E.**, Ph.D., (Universität Wien); Assistant, Mathematisches Institut der Universität Wien, Wien IX, Austria.
- Conn, Miss Joan A.**, M.S., (Adelphi College, New York); Engineer, Sperry Gyroscope Company, Great Neck, New York; *136-39 41st Avenue, Apt. 4A, Flushing 55, New York.*
- Contini, Bruno**, Ph.D., (Universita Bocconi, Italy); *c/o Vitale, Via Seltembrini 24 Milano, Italy.*
- Cooper, Paul W.**, M.S., (Massachusetts Institute of Technology); Staff Consultant, Applied Science Division, Melpar, Inc., 11 Galen Street, Watertown, Massachusetts; *2 Forest Street, Cambridge 40, Massachusetts.*
- Cornish, Edmund A.**, D.Sc., (University of Adelaide, Australia); Chief, Division of Mathematical Statistics, CSIRO and Professor of Mathematical Statistics, University of Adelaide, North Terrace, Adelaide, South Australia.
- Corvine, Walter S.**, M.A., (De Paul University, Illinois); Counselor/Chairman of Mathematics Department, Prosser Vocational High School, 2148 North Long Avenue, Chicago 39, Illinois; *200 North Pine Avenue, Chicago 44, Illinois.*
- Cotterill, Charles H. E.**, D.I.C., (Imperial College, London); Computer Programmer, Socony Mobil Oil Company, 150 East 42nd Street, New York 17, New York; *292 Riverside Drive, New York 25, New York.*
- Cottingham, Donald I.**, B.S., (Harvard University); Engineer, The Boeing Company, Renton, Washington; *18528 28th Avenue N.E., Seattle 5, Washington.*
- Cruze, Alvin M.**, M.S., (Rutgers-The State University); Graduate Student, Rutgers-The State University, New Brunswick, New Jersey; *195 George Street, New Brunswick, New Jersey.*
- Dantas, Carlos A. B.**, B.Sc., (Universidade de São Paulo, Brazil); Graduate Student, Department of Statistics, University of California, Berkeley 4, California.
- Das Gupta, Somesh**, M.Sc., (Calcutta University, India); Research Assistant, University of North Carolina, Chapel Hill, North Carolina.

- De Ambrogio, Walter, L.E.C.**, (Universita di Genova, Italy); Staff Statistician, Laboratorio di Ricerche, Eletttroniche Olivetti, Milano, Italy; *Viale Franchini 22, Genova-Nervi, Italy.*
- de Leve, Gysbert, Ph.D.**, (University of Amsterdam, The Netherlands); Research Fellow, Mathematical Centre, 2 de Boerhaavrestraat 49, Amsterdam; *Koppelland 5, Abcoude, The Netherlands.*
- Demetriades, Euripides I., M.S.**, (Cambridge University, England); Computing Officer, Lands and Surveys Department, Nicosia, Cyprus; *Post Office Box 21 Nicosia, Cyprus.*
- Doehlert, Margaret, B.A.** (Swarthmore College, Pennsylvania); Student, Columbia University, New York 27, New York.
- El Mawaziny, Ahmed Hassan, B.Sc.**, (Ein Shams University, Egypt); Graduate Student, Iowa State University, Ames, Iowa.
- Fardo, Robert D., M.A.**, (Arizona State University); Student, Arizona State University, Tempe, Arizona.
- Fleiss, Joseph L., M.S.**, (Columbia University); Biostatistician, New York State Department of Mental Hygiene, 722 West 168th Street, New York, New York; *455 East 34th Street, Paterson 4, New Jersey.*
- Foldes, Lucien P., M.Sc.** (London School of Economics); Reader in Economics, University of London, Houghton Street, Aldwych, London W. C. 2, England.
- Foss, Bradbury P. Jr., A.B.**, (University of Georgia); Graduate Assistant, University of Georgia, Athens, Georgia.
- Freeman, G. H., Ph.D.**, (London University); Statistician/Agronomist, West African Cocoa Research Institute, Moor Plantation, Ibadan, Nigeria.
- Gateley, Wilson Y., M.S.**, (Massachusetts Institute of Technology); Associate Professor of Mathematics, Colorado College, Colorado Springs, Colorado.
- Girgis, Nadia M., B.C.**, (Cairo University, Egypt); Graduate Student, Department of Statistics, University of California, Berkeley 4, California.
- Greenberg, Miss Vida L., B.A.**, (University of California, Berkeley); Graduate Student, Department of Statistics, University of California, Berkeley 4, California.
- Groll, Miss Phyllis A., M.S.**, (Stanford University); Statistical Programmer, Applied Mathematics and Statistics Laboratories, Stanford University, Stanford, California.
- Hájek, Jaroslav, Ph.D.**, (Technical University of Prague, Czechoslovakia); Scientific Worker, C.Sc., Mathematical Institute of the Czech. Academy of Sciences, Žitná 25, Prague 1, Czechoslovakia.
- Hanani, Haim, Ph.D.**, (Hebrew University, Israel); Professor/Head of Department of Mathematics, Technion I.I.T., Haifa, Israel.
- Harwitz, Mitchell, Ph.D.**, (Massachusetts Institute of Technology); Assistant Professor of Economics, Northwestern University, Evanston, Illinois.
- Heathcote, C. R., Ph.D.**, (Australian National University); Senior Lecturer, Australian National University, Post Office Box 197, Canberra City, A. C. T., Australia.
- Heggen, Darrol W., B.S.**, (Iowa State University); Statistician, State University of Iowa College of Medicine, Iowa City, Iowa.
- Heller, Mrs. Agnes S., B.S.**, (City College of New York); Graduate Student, Department of Mathematical Statistics, Columbia University, New York 27, New York; *515 West 110th Street, New York 25, New York.*
- Hietala, Harold J., B.S.**, (Montana State College); Graduate Teaching Assistant, Computer Laboratory, Montana State College, Bozeman, Montana.
- Hudimoto, Hiroshi, B.Sc.**, (Tokyo College of Science); Head of Research, Room 1, First Division, The Institute of Statistical Mathematics, 1 Azabu Huzimi-tyo, Minato-ku, Tokyo, Japan.
- Huston, Lt. Col. L. F., M.S.**, (Oklahoma State University); Assistant Chief, Systems Analysis Division, Headquarters, Air Force Systems Command, Andrews Air Force Base, Washington 21, D. C.

- Jensen, Donald R.**, Ph.D., (Iowa State University); Assistant Professor of Statistics/Statistician, Oregon State University, Corvallis, Oregon.
- Jones, Homer W. Jr.**, M.B.A., (American University, D. C.); Mathematical Statistician, United States Treasury Department, Internal Revenue Service, 12th and Pennsylvania Avenues, N.W., Washington 25, D. C.; *2503 Taylor Avenue, Alexandria, Virginia.*
- Jordan, Harley R.**, B.S., (University of Denver); Physicist, Bureau of Ships, Department of Navy, Washington 25, D. C.; *3209 Toledo Place, West Hyattsville, Maryland.*
- Kassab, Jani Y.**, B.Sc., (University of Wales); Graduate Student, Department of Pure Mathematics, Swansea University College, Singleton Park, Swansea, Glamorgan, Wales; *32 Hawthorne Avenue, Uplands, Swansea, Wales.*
- Katz, Harold L.**, D.D.S., (New York University College of Dentistry); Dentist, 310 Main Street, Emerson, New Jersey.
- Khairat, Mahmoud A.**, M.S., (George Washington University); Graduate Student, George Washington University, D. C., *2630 Adams Mill Road, N.W., Washington 9, D. C.*
- Kimura, Hitosi**, B.Sc., (Hokkaido University, Japan); Professor, Kagawa University Faculty of Economics, Kagawa, Japan.
- Kingman, John F. C.**, B.A., (Cambridge University, England); Fellow of Pembroke College, Cambridge, England.
- Klassen, Vuryl J.**, M.S., (University of Arizona); Graduate Student, University of Arizona, Tucson, Arizona; *1204 East Grant, Tucson, Arizona.*
- Klinger, Hanns**, D.R.N., (Universität Göttingen, Germany); Assistant, Institut für Mathematische Statistik, Göttingen, Germany.
- Kotz, Samuel**, Ph.D., (Cornell University); Lecturer, Department of Mathematics, Bar Ilan University, Ramat Gan, Israel; *9 Joseph Hanassi, Tel Aviv, Israel.*
- Laffoon, Frank D.**, M.S., (University of Arizona); Graduate Assistant, Department of Mathematics, University of Arizona, Tucson, Arizona; *1037 East Gifford Drive, Tucson, Arizona.*
- Leadbetter, M. Ross**, M.A., (Cambridge University, England); Mathematician, Research Triangle Institute, Box 490, Durham, North Carolina; *Glenn Heights, Chapel Hill, North Carolina.*
- Le Page, Raul D.**, M.A., (Michigan State University); Graduate Student, Department of Statistics, Michigan State University, East Lansing, Michigan.
- Levy, Bert**, B.S., (Wilson Teacher's College, North Carolina); Assistant Chief, Programming Branch, Army Map Service, 6500 Brooks Lane, Washington 25, D. C.; *8341 Navahoe Drive, Silver Spring, Maryland.*
- Lind, Donald A.**, B.S., (Otterbein College, Ohio); Actuary, Nationwide Insurance Companies, 246 North High Street, Columbus 16, Ohio.
- Loe, H. Vivian**, A.B., (George Washington University, D.C.); Mathematical Statistician, Bureau of Ships, United States Navy Department, Washington 25, D. C.; *9900 Meriden Road, Potomac, Maryland.*
- Lustfield, Charles D.**, M.A., (Arizona State University); Research Assistant, Arizona State University, Tempe, Arizona.
- McIntyre, George A.**, B.Sc., (University of Western Australia); Senior Principal Research Officer, CSIRO, Post Office Box 109, Canberra City, A.C.T., Australia.
- McRae, Murray B. W.**, M.S., (University of North Carolina); Statistician, Royal Canadian Air Force, Air Force Headquarters, Department of National Defence, Ottawa, Ontario, Canada; *Box 892, Station B, Ottawa, Ontario, Canada.*
- Marcus, Allan H.**, B.S., (Case Institute of Technology); Student, Department of Statistics, University of California, Berkeley 4, California.
- Merchant, Sarla D.**, M.S., (Bombay University, India); Graduate Student, Department of Statistics, Florida State University, Tallahassee, Florida.
- Meyer, Richard K.**, B.S., (Montana State College); *Geraldine, Montana.*
- Miké, Miss Valerie**, M.S., (New York University); Member of the Technical Staff, Bell

- Telephone Laboratories, Inc./Graduate Student, New York University, University Heights, New York 53, New York; *26 Wilk Road, Fords, New Jersey.*
- Miller, Don H.**, B.S., (University of North Carolina); Graduate Student, University of Chicago, Chicago 37, Illinois; *7312 South Ridgeland Avenue, Chicago 49, Illinois.*
- Miller, Mrs. LaRue W.**, B.S., (Utah State University); Graduate Assistant, Arizona State University, Tempe, Arizona; *1707 West Sixth Street, Mesa, Arizona..*
- Mooney, Charles S.**, B.S., (Iona College, New York); Mathematician, Sperry Gyroscope Company, Great Neck, New York; *54 Evelyn Place, Bronx 68, New York.*
- Moore, Mr. Erin H.**, B.Sc., (University of British Columbia, Canada); Engineer, The Boeing Company, Seattle, Washington; *905 East Howe, Seattle 2, Washington.*
- Moore, James M.**, B.A., (University of Minnesota); Graduate Student/Research Assistant, University of Minnesota, Minneapolis 14, Minnesota; *2526 South Eighth Street, Minneapolis 6, Minnesota.*
- Morimura, Hidenori**, Ph.D., (Kyushu University, Japan); Assistant, Tokyo Institute of Technology, Tokyo, Japan; *4292 Oi-Yamanaka, Shinagawa-ku, Tokyo, Japan.*
- Neis, William T.**, B.S., (Queens College, New York); Reliability Statistician, Ford Instrument Company, 31-10 Thomson Avenue, Long Island City 1, New York.
- Nerlove, Marc L.**, Ph.D., (Johns Hopkins University); Professor of Economics, Stanford University, Stanford, California; Econometric Institute, Pieter de Hoochweg 120, Rotterdam 6, The Netherlands.
- Nishida, Toshio**, B.S., (Kyoto University); Assistant Professor, Konan University, Kobe, Japan; *536-2 Higashi-Andoji, Minamino, Itami, Hyogo, Japan.*
- Oktaba, Wiktor**, Ph.D., (Curie-Sklodowska University, Poland); Docent of Mathematical Statistics, Agricultural College, Lublin, Poland.
- Oodaira, Hiroshi**, M.S., (Kyoto University, Japan); Graduate Assistant, Department of Statistics, Michigan State University, East Lansing, Michigan.
- Perng, Shian-Koong**, M.S., (Virginia Polytechnic Institute); Graduate Assistant, Department of Statistics, Michigan State University, East Lansing, Michigan.
- Piesch, Walter**, Dipl. M., (Universität Tübingen, Germany); Assistant Scientist, Universität Tübingen, Tübingen, Germany.
- Prachar, K.**, Ph.D., (Hochschule für Bodenkultur, Austria); Hochschule für Bodenkultur, Wien XVIII, Austria.
- Priestley, Maurice B.**, Ph.D., (Manchester University, England); Lecturer, Department of Mathematics, The University, Manchester 13, England.
- Rabinowitz, Larry**, A.B., (Rutgers-The State University); Graduate Student/Teaching Assistant, The Statistics Center, Rutgers-The State University, New Brunswick, New Jersey; *3583 Beechwood Blvd., Pittsburgh 17, Pennsylvania.*
- Ramsey, Fred L.**, B.A., (University of Oregon); Graduate Assistant, Iowa State University, Ames, Iowa; *3223 S.E. 118th Avenue, Portland 66, Oregon.*
- Rabellino, Miss Hélène**, M.A., (University of Montreal, Canada); Graduate Student, University of Montreal, Quebec, Canada; *1135 Raimbeault, Saint-Laurent, Montreal 9, Quebec, Canada.*
- Rao, Ayalasomayajula S.**, M.Sc., (Andhra University, India); Lecturer, Department of Economics, Andhra University, Waltair, Andhra Pradesh, India.
- Rech, Paul**, L.Sc., (Université de Strasbourg, France); Programmer, The Boeing Company, Renton, Washington; *9058 East Shorewood Drive, Apt. 166, Mercer Island, Washington.*
- Robertson, Duncan C.**, B.C., (McGill University, Canada); Statistician, Canadian Pulp and Paper Association, 2280 Sun Life Building, Montreal 2, Quebec, Canada.
- Rockwell, Daniel Guirguis**, M.A., (University of California, Berkeley); Teacher, Applied Mathematics and Statistics, Pittsburg Works, United States Steel Corporation, Pittsburg, California; *1161 Apple Drive, Concord, California.*
- Rothstein, Walter**, B.A., (City College of New York); Data Processing Analyst, I.T.T. Federal Laboratories, 500 Washington Avenue, Nutley 10, New Jersey; *697 West End Avenue, New York 25, New York.*

- Rouanet, Henry C.**, Ing. C., (Ecole des Mines de Paris, France); *45 Avenue de Chatillion, Paris 14, France.*
- Sakaguchi, Koji**, B.Sc., (Kyushu University, Japan); Graduate Student, Mathematical Institute, Kyushu University, Hakozaki, Fukuoka, Japan.
- Saxena, Krishna M. L.**, M.A., (University of Lucknow, India); Graduate Student, Department of Statistics, University of Minnesota, Minneapolis 14, Minnesota.
- Schaufele, Ronald A.**, B.Sc., (University of Washington); Student, Department of Mathematics, University of Washington, Seattle 5, Washington.
- Schuler, Robert**, B.S., (Duquesne University, Pennsylvania); Actuarial Trainee, Hospital Service Association of Western Pennsylvania, Union Trust Building, Pittsburgh, Pennsylvania; *128 Lynnwood Drive, Pittsburgh 35, Pennsylvania.*
- Sellers, Robert E.**, B.S., (Stetson University, Florida); Instructor, University of Florida, Gainesville, Florida; *Route 4, Box 136 A, Gainesville, Florida.*
- Shakun, Melvin F.**, Eng. Sc.D., (Columbia University); Associate Professor, The Statistics Center, Rutgers-The State University, New Brunswick, New Jersey; *18 Drake Road, Somerset, New Jersey.*
- Shaman, Paul**, A.B., (Dartmouth College); Graduate Student, Columbia University, New York 27, New York; *210 West 101st Street, New York 25, New York.*
- Singh, Jarnail**, M.A., (University of Toronto, Canada); Graduate Student/Teaching Fellow, Department of Mathematics, University of Toronto, Toronto 5, Ontario, Canada.
- Slakter, Malcolm J.**, M.A., (New York State College, Albany); Instructor, Department of Mathematics, Syracuse University, Syracuse 10, New York.
- Smith, Robert R.**, M.A., (Indiana University); Project Scientist, Booz-Allen Applied Research, Inc., 4815 Rugby Avenue, Bethesda 14, Maryland.
- Soms, Andrew P.**, M.S., (University of Wisconsin); Statistician, Michigan State Department of Health, Old De Witt Road, Lansing, Michigan; *1119 Walsh, Lansing 12, Michigan.*
- Srikantan, K. S.**, M.A., (Madras University, India); United Nations Expert in Statistical Training, Technical Assistance Bureau, Post Box 9182, Dar es Salaam, Tanganyika.
- Srivastava, R. C.**, M.Sc., (University of Lucknow, India); Graduate Assistant, Department of Statistics, Michigan State University, East Lansing, Michigan.
- Steiger, William Lee**, B.S., (Massachusetts Institute of Technology); Student/Research Assistant in Economics, Massachusetts Institute of Technology, School of Industrial Management, Cambridge, Massachusetts; *23 Manchester Road, Brookline 46, Massachusetts.*
- Steiglitz, Kenneth**, M.E.E., (New York University); Student, College of Engineering, New York University, Bronx 53, New York; *5209 Palisade Avenue, West New York, New Jersey.*
- Stone, Dan C.**, B.S., (Midwestern University, Texas); Graduate Assistant, Computing Center, Florida State University, Tallahassee, Florida; *160-13 Crenshaw Drive, Tallahassee, Florida.*
- Stone, Mervyn**, Ph.D., (Cambridge University, England); Lecturer, University College of Wales, Aberystwyth, Cardiganshire, Wales.
- Svehla, Robert Lee**, B.A., (Doane College, Nebraska); Associate Engineer, The Boeing Company, Seattle, Washington; *218 Sisson, Missoula, Montana.*
- Taha, M. A. H.**, B.Sc., (Alexandria University, Egypt); Graduate Student, Federal Institute of Technology, Zürich, Switzerland; *Baechlerstrasse 7, Zurich 11/46, Switzerland.*
- Tanur, Mrs. Judith M.**, B.S., (Columbia University); Student, Columbia Graduate Facilities, Morningside Heights, New York 27, New York; *5123 Avenue "H", Brooklyn 34, New York.*
- Taylor, Thomas G.**, B.S., (Kent State University, Ohio); Graduate Student, Department of Mathematics, Cornell University, Ithaca, New York; *1107 Hanshaw Road, Ithaca, New York.*

- Thedéén, Torbjörn, H. B.**, Dr. Sc., (Royal Institute of Technology, Sweden); Lecturer, Department of Mathematical Statistics, Royal Institute of Technology, Stockholm 70, Sweden.
- Tracey, Sister St. Gerald Marie**, M.S., (Fordham University, New York); Teacher, Mathematics and Physics, Marianopolis College, 3647 Peel Street, Montreal 2, Quebec, Canada.
- Trivedi, M. C.**, M.S., (Virginia Polytechnic Institute); Student, Virginia Polytechnic Institute, Blacksburg, Virginia; *17160 Stoepele, Detroit 21, Michigan.*
- Vencil, Noel W.**, B.S., (University of New Mexico); Graduate Student, University of Washington, Seattle 5, Washington; *2423 N.E. 54th Street, Seattle 5, Washington.*
- Venter, Johannes H.**, M.S., (University of Chicago); Student, Department of Statistics, University of Chicago, Chicago 37, Illinois.
- Wilkinson, G. N.**, M.Sc., (University of Adelaide, Australia); Senior Research Officer, Division of Mathematical Statistics, CSIRO, University of Adelaide, Adelaide, South Australia.
- Williams, Donald Ray**, M.S., (Oklahoma State University); Graduate Student, Oklahoma State University, Stillwater, Oklahoma; *Unit 22, Apt. 9, North University Place, Stillwater, Oklahoma.*
- Willis, Paul A.**, M.E.E., (Polytechnic Institute of Brooklyn); Research Electrical Engineer, Electronics System Laboratory, Massachusetts Institute of Technology, Building 32, Cambridge 39, Massachusetts.
- Wojtyniak, Józef**, M.Sc. (High Commercial School, Poland); Head, Department of Economics, Road Transport Laboratory, Research Center of Road Transport, ul. Stalingradzka 32/34, Warsaw 9, Poland; *ul. Akacjowa 10/7, Warsaw 12, Poland.*
- Wolf, Edward H.**, M.S., (Rutgers-The State University); Statistician, American Cyanamid Company, River Road, Bound Brook, New Jersey; *276 Newman Street, Metuchen, New Jersey.*
- Yoneda, Keizo**, B.Sc., (Kyoto University, Japan); Professor, Yokohama Municipal University, 4646 Seto, Kanazawa-ku Yokohama, Japan; *936 Nisiterao, Kanagawa-ku, Yokohama, Japan.*
- Zaremba, S. K.**, Ph.D., (University of Wilno, Poland); Senior Lecturer, University College of Swansea, Singleton Park, Swansea, Wales.
- Zasepa, Ryszard**, Ph.D., (Central College for Planning and Statistics, Poland); Statistician, F.A.O. of the United Nations, Viale delle Terme di Caracalls, Rome, Italy; *Viale America 93 int. 42, Rome, Italy.*
- Zidek, James V.**, B.Sc., (University of Alberta, Canada); Graduate Student, University of Alberta, Edmonton, Alberta, Canada; *#2-8734 82nd Avenue, Edmonton, Alberta, Canada.*

NEW STATISTICS SECTION OF AAAS

The Council of the American Association for the Advancement of Science has authorized the organization of a new Section U (Statistics). The chairman for 1962 is Professor J. Neyman, University of California, Berkeley, and the secretary is Dr. Morris Ullman, Bureau of the Budget. An article by Professor Neyman, scheduled to appear in the December 7, 1962 issue of *Science*, initiates the discussion of the position that Section U might assume with regard to existing societies, and of the purposes that it might serve. At the AAAS Annual Meeting in Philadelphia in December 1962, Section U will present several sessions on the teaching of statistics, on probability and the theory of statistics, and on statistical problems in genetics, astronomy, ecology, social and economic research, and in

novel domains of science. Inasmuch as the Institute of Mathematical Statistics is affiliated with AAAS, members of the Institute are welcome to participate in the activities of Section U.

PRELIMINARY ACTUARIAL EXAMINATIONS PRIZE AWARDS

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 1962 Preliminary Actuarial Examinations have been announced. The first prize of \$200 was awarded to Peter Mansbach of Harvard University. Additional prizes of \$100 each went to George B. Breznay, Jr., Harvard University; Larry L. Dornhoff, University of Nebraska; Ronald L. Lipsman and Barry H. Margolin, City College of New York; Roy C. Snell, Queen's University; James E. Turner and Timothy R. Walsh, University of Toronto; and Alan D. Weinstein, Massachusetts Institute of Technology. Information concerning future examinations can be obtained from The Society of Actuaries, 208 LaSalle Street, Chicago 4, Illinois.

REPORT OF THE PRESIDENT FOR 1962

Some of my remarks may duplicate the remarks of committees chairmen and officers, but there are several items of particular interest on which I should like to comment.

Meetings: The total number of regional meetings this year exceeded, with the single exception of 1947, all other years. Even that exception, however, is overshadowed by this year's attendance figures, which reached a total of 752, as compared with a total of 174 for the five 1947 meetings. Regional meetings were held in Urbana, New York, Chapel Hill, Albuquerque, and Dublin. The meetings were all well received and the pattern of an increasing number of regional meetings seems to be getting general acceptance.

Our first meeting, outside the United States, a European Regional Meeting, has just been concluded in Dublin, Ireland. This meeting, which I attended, marked a successful direct step in the internationalization of the Institute. The total attendance was approximately 300. The number who were IMS members is not yet tabulated.

The Annals: The size and vigor of the *Annals* is an especially gratifying sign of the vitality, growth, hard work, and creativity of our profession. It was only revenue limitations that kept an even larger *Annals* for 1962 from being published. The page limit was raised this year to 1500 pages, the largest yet, and the receipt by the editor of high quality manuscripts continues to rise.

The quality of this year's *Annals* is a credit to Professor Kruskal, under whose administration many of the papers were accepted, and to Professor Hodges, who is now performing the duties of editor with great skill. The Institute is deeply in the debt of its Editors, Associate Editors, and referees.

Incidentally, 33 % of the papers in the 1961 volume were written by authors outside the United States.

I should like also to mention that during the past year our membership grew by approximately 250, most of whom were students.

Business Operations: The growth and importance of the business of statistical theorizing has stretched our ability to operate the Institute largely by means of volunteer efforts and steps were taken to distribute the work. One of these steps was to transfer to the Treasurer's Office much of the administrative detail of the Secretary's Office. The basic membership list is now maintained by the Treasurer, and the preparation of future directories will also be the task of that Office. This redistribution of responsibilities will free the Secretary to take over other functions, especially the increasingly important one of representing the Institute on national and international bodies. Under the Constitutional Amendment proposed for vote at this meeting, the Program Coordinator will become a Secretary and Officer of the Institute, further relieving the Secretary from program responsibilities.

Other Events: Among the major events of the year is the growth of the Institute's activities in behalf of professional statisticians in conjunction with other societies. Two steps were taken in this direction.

(1) The Institute is now one of seven member organizations on the Conference Board of the Mathematical Sciences. That organization is designed as a creature of its constituent societies and is working on programs of common concern. Two of the Conference Board's recent activities are a study of the design of mathematics buildings and facilities and a project for planning public information services in mathematics. Both activities received foundation support. The Conference Board maintains an Executive Secretary's Office in Washington to assure immediate and accurate communication with government officials.

(2) In order to work better on domestic problems of more statistical concern, a Committee of Presidents of Statistical Societies was formed this year and has already held several formal and informal meetings. It has already received some foundation support. In this Committee, the Institute is joined with the American Statistical Society and the Biometric Society (ENAR).

The Committee has so far formed eight inter-society committees which are the: Committee on Professional Standards, Committee on Career Brochure, Committee on Academic Programs, Committee on Section U (Statistics) of the AAAS, Committee on Organizational Changes, Committee on Placement Service, Committee on News and Notes, Committee on Scheduling Meetings.

These two moves reflect a policy decision to work in professional activities and to cultivate the pastures of the Potomac in conjunction with other societies rather than on our own.

This latter decision is, of course, related to our policy of moving gradually to a truly international organization, a decision which was established by the last two or three Councils of the Institute and appears to have general acceptance. Council members, Committee members, and Associate Editors are now coming

increasingly from outside the United States. Many of us hope to see this trend extended to the offices of President and Editor. Asian regional meetings may well be started; there is interest in both Japan and India. We are now affiliated with the International Statistical Institute.

There is a basic conflict between true internationalization of the Institute and activities to promote the welfare of our profession in the United States. Such domestic affairs as a placement service, recruiting activities in American Universities, concern with government fellowships and research funds, visiting scientists programs, designating representatives to national boards such as the National Research Council and the AAAS, etc., are less and less appropriate for an international body. Page charges are likewise a characteristic of societies in the United States.

Nominating Committee: It is my traditional duty to announce the Nominating Committee at this time, which consists of Rosedith Sitgreaves, Chairman, M. Bryan Danford, Morris Hansen, Mark Kac, Jerzy Neyman, E. J. G. Pitman, Harold Ruben, and Harry Weingarten.

Conclusion: It is with mixed feelings that I now step down from several years of activity in behalf of the Institute. After having been an officer since 1955, and a member of the Council for two years preceding that, I wouldn't be quite honest with myself if I didn't say that I enjoyed the work entailed and the honor awarded to officers of an outstanding professional organization. By chance, today is my birthday, and the opportunity to pass the gavel now to my successor and not to attend any more Council meetings is a fine present which I gratefully accept.

Professor Anderson has served the Institute as Editor of the *Annals* and as a member of the Council for a good many years. He is an outstanding scholar and a close personal friend, and will, without question, make an outstanding President.

It is my very great pleasure now to thank you all for my opportunity to serve the Institute, and to turn the gavel over to Ted Anderson.

ALBERT H. BOWKER

REPORT OF THE EDITOR FOR 1962

The rapid growth which has characterized the *Annals* in recent years continued during 1962. Some 248 manuscripts were submitted in the past operating year, an all-time high. Enough manuscripts were accepted by the former editor, William Kruskal, or by me, to have provided a 1962 volume of about 1650 pages; because of concern with the cost, the Executive Committee decided to limit the volume to about 1500 pages. Although this was a substantial increase over the preceding year, we are ending 1962 with a backlog for the first time in several years. Thanks to the improved financial prospects resulting from the decision of the Minneapolis membership meeting to raise dues, an increase has been authorized to 1800 pages for 1963, if so many should prove necessary.

With the current issue the *Annals* is again beginning to carry book reviews. I am very happy that Mr. Kruskal has rejoined the Editorial Board to serve as

Book Review Editor, and believe that the new section will add considerably to the value and interest which the *Annals* has for its readers.

During 1962 there were other changes in the Board. Oscar Kempthorne has resigned because of the press of other business, and D. R. Cox and Ronald Pyke have joined the Board. I am most grateful to the distinguished group of scholars who as Associate Editors bear so large a share of the responsibility for considering the submitted manuscripts.

The *Annals* editor has always served also as publisher, bearing responsibility for the publication of the journal as well as the editorial consideration of manuscripts. With the recent rapid growth it has become increasingly desirable to separate these functions, and the Council at Minneapolis decided to set up a publishing office separate from the editorial office. The decision followed a year-long experiment, during which my publication associate in Chicago, Mrs. Robert Isherwood, saw the journal through the press. The trial arrangement worked smoothly, thanks to the initiative, devotion and experience which Mrs. Isherwood brought to the task.

The work of the editorial office in Berkeley has benefited greatly during the past year from the efficient help of my editorial assistant, Mrs. Vincent Rizzolo. I am indebted to the University of California and to my colleagues at Berkeley for the very large support, direct and indirect, which has been given to the editorial office.

It would be impossible for a journal such as ours to operate were it not for the help generously contributed each year by the many scholars who serve as referees. On behalf of the present and preceding editorial boards I take great pleasure in extending thanks to those whose names are listed below.

J. L. HODGES, JR.

Addelman, Sidney	Blumenthal, R. M.	de Finetti, Bruno
Ajne, B.	Blyth, Colin R.	Derman, Cyrus
Andersen, E. S.	Borges, Rudolf E.	Desoer, C. A.
Anderson, R. L.	Brunk, H. D.	Dixon, W. J.
Anderson, T. W.	Buehler, Robert J.	Doob, J. L.
Anscombe, F. J.	Burkholder, D. L.	Draper, Norman R.
Bahadur, R. R.	Capon, Jack	Dubins, Lester E.
Baker, G. A.	Carlborg, Frank	Dunnett, C. W.
Barankin, Edward W.	Carlson, Roger	Dwass, Meyer
Barton, D. E.	Chernoff, Herman	Ehrenfeld, S.
Bayly, M. B.	Chiang, C. L.	Ekman, Gunnar
Behnken, D. W.	Clarke, Bruce	Elashoff, Robert M.
Bell, Earl L.	Clatworthy, W. H.	Epstein, Benjamin
Beneš, Vaclav E.	Cohen, A. C., Jr.	Fabius, J.
Bharucha-Reid, A. T.	Cohen, Arthur	Farrell, Roger H.
Bhuchongkul, Subha	Corsten, L. C. A.	Ferguson, Thomas S.
Billingsley, Patrick	Cox, D. R.	Fisz, Marek
Birnbaum, Z. W.	Dalenius, Tore	Forsythe, G.
Blackwell, David	Darling, Donald A.	Foster, F. G.
Block, H. D.	David, F. N.	Franklin, J. N.
Blom, Gunnar	David, Herbert A.	Fraser, D. A. S.
Blum, Julius R.	David, Herbert T.	Freedman, David A.

- Gaffey, William R.
 Gani, Joseph
 Gaver, Donald
 Getoor, Ronald
 Ghosh, J. K.
 Ghurye, S. G.
 Gnanadesikan, R.
 Goodman, Leo A.
 Graybill, Franklin
 Greenhouse, Samuel
 Guest, P. G.
 Gupta, Shanti S.
 Gurland, John
 Hadley, George
 Haight, F. A.
 Hajian, A. B.
 Hall, W. J.
 Halmos, Paul
 Hammersley, J. M.
 Hanani, Haim
 Hannan, James F.
 Harris, T. E.
 Harter, H. Leon
 Hartley, H. O.
 Hoeffding, Wassily
 Huber, Peter J.
 Ito, Kiyoshi
 James, Allan T.
 Johnson, N. L.
 Jones, Richard H.
 Kallianpur, Gopinath
 Karush, Jack I.
 Katz, Leo
 Katz, Melvin L., Jr.
 Kesten, Harry
 Klotz, Jerome
 Koop, J. C.
 Kraft, Charles H.
 Kullback, Solomon
 Laha, R. G.
 Lamperti, John W.
 Laska, Eugene
 LeCam, Lucien
 Lieberman, Gerald J.
 Lloyd, S. P.
 Loève, M.
 Lord, Frederic M.
 Loynes, Robert M.
 Lukacs, Eugene
 Madansky, Albert
 Madow, William G.
 Mallows, Colin L.
 Mann, H. B.
 Marshall, A. W.
 McCarthy, P. J.
 McGregor, J. L.
 Mickey, M. R., Jr.
 Mikulski, P. W.
 Miller, Rupert
 Moses, Lincoln E.
 Mosteller, Frederick C.
 Moy, Shu-Teh C.
 Muller, Mervin E.
 Murthy, V. K.
 Nash, S. W.
 Nidditch, P.
 Noether, Gottfried E.
 Olkin, Ingram
 Owen, Donald B.
 Pachares, James
 Page, E. S.
 Parzen, Emanuel
 Patel, M. S.
 Potthoff, Richard F.
 Pratt, John W.
 Pruitt, William E.
 Puri, M. L.
 Pyke, Ronald
 Raiffa, Howard
 Reich, Edgar
 Rényi, A.
 Riordan, John
 Robbins, Herbert E.
 Robinson, Enders A.
 Robson, Douglas S.
 Rosenblatt, Joan Raup
 Rosenblatt, Murray
 Roy, S. N.
 Ruben, Harold
 Rubin, Herman
 Sacks, Jerome
 Saunders, Sam C.
 Savage, I. Richard
 Saw, John G.
 Schaufele, Ronald
 Scheffé, Henry
 Schlessinger, J. M.
 Shah, B. V.
 Sherman, Seymour
 Silvey, S. D.
 Sitgreaves, Rosedith
 Skibinsky, Morris
 Slepian, David
 Smith, Walter L.
 Sobel, Milton
 Solomon, Herbert
 Spitzer, Frank L.
 Steck, G. P.
 Stuart, Alan
 Sucheston, L.
 Suppes, Patrick
 Takács, Lajos
 Teicher, Henry
 Teichroew, Dan
 Trawinski, B. J.
 Tukey, John W.
 van der Vaart, H. R.
 van Eeden, Constance
 Venter, J.
 Walker, A. M.
 Wallden, K. E.
 Watson, G. S.
 Weiss, Lionel
 Welch, B. L.
 Wendel, James G.
 Whitney, Ransom
 Whittle, Peter
 Wigner, E. P.
 Wijsman, R. A.
 Wilk, M. B.
 Wilkinson, W.
 Williams, E. J.
 Williams, W. H.
 Wolfowitz, J.
 Woll, John W. Jr.
 Ylvisaker, N. Donald
 Zelen, Marvin
 Zetterberg, L. H.
 Zyskind, George

REPORT OF THE MINNEAPOLIS MEETING OF THE INSTITUTE OF MATHEMATICAL STATISTICS

The 93rd meeting of the Institute of Mathematical Statistics, the 25th annual meeting, was held at the Leamington and Curtis Hotels, Minneapolis, Minnesota,

September 7–10, 1962, in conjunction with the meetings of the American Statistical Association, the Biometric Society (Eastern North American Region), and the Institute of Management Sciences.

The Wald Memorial Lectures were delivered by Jack C. Kiefer, Cornell University, on "Optimum Experimental Designs: I. Exact Theory. II. Approximate Theory. III. Asymptotic and Sequential Theory."

There were 359 members of the IMS present at the meeting.

Program

Some sessions were held under joint sponsorship with other societies; where this is indicated, the session was arranged by the society listed first.

Friday, September 7, 1962

10:30 a.m.–12:20 p.m.—Inference

Chairman: F. J. ANSCOMBE, Princeton University

1. *On Fiducial Inference*, DONALD A. S. FRASER, University of Toronto.
2. *Invariant Bayesian and Non-Bayesian Inversion*, JOHN A. HARTIGAN, Princeton University.
3. *On the Creasy-Fieller Paradox*, ROGER S. PINKHAM and MARTIN B. WILK, Rutgers University.

Discussion: ROBERT J. BUEHLER, Iowa State University, WILLIAM G. MADOW, Stanford Research Institute, JOHN W. TUKEY, Princeton University.

2:00 p.m.–2:50 p.m.—Inference (continued)

Chairman and discussants: The same

4. *On Direct Probabilities*, A. P. DEMPSTER, Harvard University.

3:00 p.m.–3:50 p.m.—Wald Lecture I

Chairman: ALBERT H. BOWKER, Stanford University

Optimum Experimental Designs, I: Exact Theory, JACK C. KIEFER, Cornell University.

4:00 p.m.–5:50 p.m.—New Statistical Developments in Operations Research I

Institute of Management Sciences, Institute of Mathematical Statistics, and American Statistical Association

Chairman: JAMES C. GRACE, General Mills

1. *The Adaptive Smoothing Approach to Statistical Forecasting*, ROBERT G. BROWN, Arthur D. Little, Inc.
2. *A Survey of Developments in Chance-Constrained Programming*, A. CHARNES, Northwestern University and W. W. COOPER and G. L. THOMPSON, Carnegie Institute of Technology.
3. *Network Planning and Scheduling*, CHARLES T. LEWIS, General Mills.

4:00 p.m.–5:50 p.m.—Contributed Papers I

Chairman: ROBERT J. BUEHLER, Iowa State University

1. *Bayes Decision Theory: Insensitivity to Non-Optimal Design*, GORDON R. ANTELMAN, University of Chicago.
2. *Optimal Classification Rules* (Preliminary Report), SOMESH DAS GUPTA, University of North Carolina (Introduced by GEORGE E. NICHOLSON, JR.).

3. *Reduction of Wasted Stringency in Ranking and Counting Procedures Through the Use of Supplementary Criteria* (Preliminary Report), JOHN W. TUKEY, Princeton University.
4. *Small Sample Efficiency for the One Sample Wilcoxon and Normal Scores Tests*, JEROME KLOTZ, University of California, Berkeley.
5. *Efficiency of the Wilcoxon Two-Sample Test for Randomized Blocks* (Preliminary Report), GOTTFRIED E. NOETHER, Boston University.
6. *Goodness Criteria for 2-Sample Distribution-Free Tests* (Preliminary Report), C. B. BELL, San Diego State College.

6:00 p.m.—1962 Council Meeting—Institute of Mathematical Statistics

8:00 p.m.—Special Joint Session

American Statistical Association, Biometric Society (ENAR), and Institute of Mathematical Statistics

Chairman: ALLYN W. KIMBALL, Johns Hopkins University

The Statistical Evaluation of Educational Allocation and Selection, D. J. FINNEY, University of Aberdeen.

Discussion: LEE J. CRONBACH, University of Illinois, THEODORE COLTON, Harvard University, CHARLES W. DUNNETT, American Cyanamid Co., WALTER T. FEDERER, Cornell University.

Saturday, September 8, 1962

8:30 a.m.—10:20 a.m.—Mathematics of Reliability I

Chairman: AUSTIN J. BONIS, AC Spark Plug Division of General Motors Corporation

1. *Some Significant Theoretical Problems in Reliability*, LEO A. AROIAN, Space Technology Laboratories.
2. *Tests for Increasing Failure Rate*, FRANK PROSCHAN, Boeing Scientific Research Laboratories, and RONALD PYKE, University of Washington.
3. *The Decision Theory Approach to Complex Experimentation*, MITCHELL O. LOCKS, Rocketdyne Division of North American Aviation.

8:30 a.m.—10:20 a.m.—Contributed Papers II

Chairman: JEROME KLOTZ, University of California, Berkeley

1. *The Choice of a Decision Procedure for Finite Decision Problems Under Complete Ignorance*, J. D. CHURCH AND BERNARD HARRIS, University of Nebraska.
2. *On Characterization and on Complete Solution of Two-Person Zero-Sum Games* (Preliminary Report), JOSEPH V. TALACKO, Marquette University.
3. *On the Inadmissibility of Some Standard Estimates in the Presence of Prior Information*, MORRIS SKIBINSKY, University of California, Berkeley, and Purdue University, and LOUIS J. COTE, Purdue University.
4. *Iterated Tests of the Equality of Several Distributions*, ROBERT V. HOGG, University of Iowa.
5. *A Test of the Two-Sample Problem with Nuisance Location and Scale Parameters, and an Estimate of the Scale Parameter*, SAUL BLUMENTHAL, University of Minnesota.

10:30 a.m.—11:20 a.m.—Contributed Papers III

Chairman: THOMAS S. FERGUSON, University of California, Los Angeles

1. *Linear Hypotheses with Intraclass Correlation*, H. S. KONIJN, Yale University.
2. *Some Properties of Tukey's Test for Non-Additivity*, D. HOGBEN, R. S. PINKHAM, and M. B. WILK, Rutgers University.

3. *Use of Some Extraneous Information in the Estimation of Regression Coefficients*, YUKIO SUZUKI, Institute of Statistical Mathematics, Tokyo.

10:30 a.m.—11:20 a.m.—Contributed Papers IV

Chairman: D. L. BURKHOLDER, University of Illinois

1. *A Definition of Subjective Probability*, F. J. ANSCOMBE, Princeton University, and R. J. AUMANN, Hebrew University.
2. *Combinatorial Results in Multi-Dimensional Fluctuation Theory*, CHARLES HOBBY and RONALD PYKE, University of Washington.
3. *Controlling of Non-Recurrent Lattice Random Walks*, KARL F. HINDERER, University of California, Berkeley, and Technische Hochschule, Stuttgart.

11:30 a.m.—12:20 p.m.—Wald Lecture II

Chairman: THEODORE W. ANDERSON, Columbia University

Optimum Experimental Designs, II: Approximate Theory, JACK C. KIEFER, Cornell University.

- 2:00 p.m.—3:50 p.m.—Analogues and Differences in Univariate and Multivariate Analysis I**
Biometrics Section, ASA, Biometric Society (ENAR) and Institute of Mathematical Statistics

Chairman: ROLF E. BARGMANN, International Business Machines Corp.

1. *Can Multivariate Data be Analyzed by Univariate Methods?*, OSCAR KEMPTHORNE, Iowa State University.
2. *Statistical Comparisons in Data Analysis*, RAM GNANADESIKAN and MARTIN WILK, Bell Telephone Laboratories.
3. *Interpretation of Non-Centrality Parameters in Univariate and Multivariate Analysis*, HARRY O. POSTEN, International Business Machines Corp.

2:00 p.m.—3:50 p.m.—Applied Probability

Chairman: PAUL MEIER, University of Chicago

1. *Competitive Queueing Models*, DONALD P. GAVER, Westinghouse Research Laboratories and Stanford University.
2. *Stochastic Epidemics Involving Large Populations*, TREVOR WILLIAMS, Johns Hopkins University.
3. *Markov Processes Representing Traffic in Connecting Networks*, VÁCLAV E. BENEŠ, Bell Telephone Laboratories.

4:00 p.m.—4:50 p.m.—Wald Lecture III

Chairman: LEO KATZ, Michigan State University

Optimum Experimental Designs, III: Asymptotic and Sequential Theory, JACK C. KIEFER, Cornell University.

5:00 p.m.—Business Meeting—Institute of Mathematical Statistics

6:00 p.m.—1963 Council Meeting—Institute of Mathematical Statistics

10:00 p.m.—Informal Party

Sunday, September 9, 1962

8:30 a.m.—10:20 a.m.—Mathematics of Reliability II

Chairman: AUSTIN J. BONIS, AC Spark Plug Division of General Motors Corporation

1. *Basic Ideas and Methodology Underlying the Stochastic Approach to Reliability and Life Testing*, BENJAMIN EPSTEIN, Consultant.

2. *Dependability Models for a System of N Parallel Elements*, J. FINKELSTEIN and R. E. SCHAFER, Hughes Aircraft Corporation.
3. *Some Aspects of the Weibull Distribution*, JOHN S. WHITE, General Motors Research Laboratories.

8:30 a.m.—10:20 a.m.—Contributed Papers V

Chairman: DONALD P. GAVER, Westinghouse Research Laboratories

1. *Absolute Continuity of Infinitely Divisible Distributions*, HOWARD G. TUCKER, University of California, Riverside.
2. *A Characterization of the Geometric Distribution*, THOMAS S. FERGUSON, University of California, Los Angeles.
3. *A Generalized Branching Process*, PETER E. NEY, Cornell University.
4. *Pre-Emptive Resume Priority Queues* (Preliminary Report), PETER D. WELCH, International Business Machines Corporation and Columbia University.
5. *Asymptotic Expansion for a Class of Distribution Functions*, K. C. CHANDA, Washington State University.
6. *Asymptotic Independence of (d)-Structured Order Statistics and (d)-Structured Statistics of Kolmogoroff-Smirnoff Type* (Preliminary Report), H. T. DAVID, Iowa State University.

10:30 a.m.—12:20 p.m.—Prediction and Classification

Section on Physical and Engineering Sciences, ASA, and Institute of Mathematical Statistics

Chairman: FREDERICK MOSTELLER, Harvard University

1. *Evaluation of the Operating Characteristics of Some Classification Procedures*, ROSEDDITH SITGREAVES, Columbia University.
2. *Prediction Using Features of Discriminant Analysis and Regression*, A. P. DEMPSTER, Harvard University, and R. G. MILLER, Travelers Research Center, Inc.
3. *Optimal Classification Rules*, SOMESH DAS GUPTA, University of North Carolina.

10:30 a.m.—12:20 p.m.—Ranks and Order Statistics

Chairman: R. GNANADESIKAN, Bell Telephone Laboratories

1. *Partial Orderings of Probabilities of Rank Orders*, I. RICHARD SAVAGE, University of Minnesota.
2. *What Part of the Sample Carries the Information?*, JOHN W. TUKEY, Princeton University.
3. *Percentage Points of the Ratio of Two Ranges*, H. LEON HARTER, Aeronautical Research Laboratories.

Discussion: H. O. HARTLEY, Iowa State University.

2:00 p.m.—3:50 p.m.—New Statistical Developments in Operations Research II

Institute of Management Sciences, Institute of Mathematical Statistics, and American Statistical Association

Chairman: L. KEITH COAD, Minnesota Mining and Manufacturing Co.

1. *Vector Markov Processes*, RONALD A. HOWARD, Massachusetts Institute of Technology.
2. *Markov Models in Marketing*, JEROME D. HERNITER, Arthur D. Little, Inc.
3. *Experimental Optimization in Maintenance*, BURTON V. DEAN and ELI S. MARKS, Case Institute of Technology.

2:00 p.m.—3:50 p.m.—Miscellaneous Topics

Chairman: A. T. JAMES, Yale University

1. *On Conditions for Equality of Best and Simple Linear Least Squares Estimators*, GEORGE ZYSKIND, Iowa State University.

2. *Multivariate Distributions*, ALAN G. CONSTANTINE, University of Adelaide and Yale University.
3. *Some Ranking Problems with Poisson Populations*, MILTON SOBEL, University of Minnesota.

4:00 p.m.—5:50 p.m.—Analogues and Differences in Univariate and Multivariate Analysis II
Biometric Section, ASA, Biometric Society (ENAR), and Institute of Mathematical Statistics

Chairman: SAMUEL W. GREENHOUSE, National Institutes of Health

1. *Some Relations and Contrasts Between Univariate Analysis and Multivariate Analysis*, T. W. ANDERSON, Columbia University.
2. *Representative Selection of Variables*, ROLF E. BARGMANN, International Business Machines Corp.
3. *Some Classes of Designs in Multi-Response Experiments*, J. N. SRIVASTAVA, University of North Carolina.

4:00 p.m.—5:50 p.m.—Stochastic Processes

Chairman: HOWARD G. TUCKER, University of California, Riverside

1. *Design Problems in Regression on Time Series*, N. DONALD YLVIKAKER, University of Washington.
2. *Spectral Windows for the Power Spectrum Analysis of Discrete Data*, REED B. DAWSON, Control Data Corporation.
3. *Beating the Many-Armed Bandit*, COLIN L. MALLOWS and HERBERT E. ROBBINS, Columbia University.

8:00 p.m.—Special Papers Invited by the Presidents

American Statistical Association, Biometric Society (ENAR), and Institute of Mathematical Statistics

Chairman: LEO A. GOODMAN, University of Chicago

Disputed Authorship of the Federalist Papers:

- Background of Problem and Outline of Methods*, FREDERICK MOSTELLER, Harvard University.
- Methodology of the Main Bayesian Study and Results*, DAVID L. WALLACE, University of Chicago.

Discussion: DOUGLASS ADAIR, Claremont Graduate School, F. J. ANSCOMBE, Princeton University, JERZY NEYMAN, University of California, Berkeley.

Monday, September 10, 1962

8:30 a.m.—10:20 a.m.—Contributed Papers VI

Chairman: B. W. LINDGREN, University of Minnesota

1. *The Reliability of Repairable Complex Systems, Part B: The Dissimilar Machine Case*, RONALD S. DICK, International Electric Corporation.
2. *On Reliability Inference* (Preliminary Report), EDWARD L. PUGH, System Development Corporation.
3. *Some Tests for Gamma Parameters with an Application to a Reliability Problem*, M. M. LENTNER and R. J. BUEHLER, Iowa State University.
4. *Application of Range in Sequential Analysis*, BHASKAR K. GHOSH, Lehigh University.
5. *On Two-Stage Non-Parametric Estimation*, ELIZABETH Y. H. YEN, University of Minnesota.

6. *Poisson Limits of Bivariate Run Distributions* (Preliminary Report), CAROL B. EDWARDS and H. T. DAVID, Iowa State University.
7. *A Theoretical Model for Achieving Selective Biological Effects*, JAMES B. MACQUEEN, University of California, Los Angeles.

8:30 a.m.—10:20 a.m.—Contributed Papers VII

Chairman: ROBERT V. HOGG, University of Iowa

1. *Optimum Estimators of the Parameters of Exponential Distributions from One or Two Order Statistics*, M. M. SIDDIQUI, National Bureau of Standards, Boulder.
2. *Aids for the Separate Maximum Likelihood Estimation of Scale or Shape Parameters of the Gamma Distribution Using Order Statistics*, M. B. WILK, R. GNANADESIKAN, and MISS M. J. HUYET, Bell Telephone Laboratories.
3. *Tables of Non-Central Chi-Square*, GEORGE E. HAYNAM and F. C. LEONE, Case Institute of Technology.
4. *Some Percentage Points of the Non-Central t -Distribution*, ERNEST M. SCHEUER, The RAND Corporation.
5. *Sample Size Determination for Tolerance Regions for the Exponential Distribution*, DAVID L. WEEKS and LEE J. BAIN, Oklahoma State University.
6. *Exact Power of Some Tests Based on a Generalization of Mood's Statistics*, FRED C. LEONE, I. M. CHAKRAVARTI, and G. E. HAYNAM, Case Institute of Technology.
7. *A Test of Linearity Versus Convexity of a Median Regression Curve*, BRUCE M. HILL, University of Michigan.
8. *Estimation of Multiple Contrasts Using a Multivariate t -Distribution*, OLIVE JEAN DUNN and FRANK J. MASSEY, JR., University of California, Los Angeles.

10:30 a.m.—12:20 p.m.—Contributed Papers VIII

CHAIRMAN: LEO KATZ, Michigan State University

1. *Complete Class Theorems for Unbiased Estimation*, EUGENE LASKA, IBM Corporation, Newark.
2. *Minimax Estimate of an Inverse-Binomial Parameter*, M. T. WASAN, Queen's University.
3. *On Median Unbiased Estimation from Discrete Data*, W. J. HALL, University of North Carolina.
4. *Biological Examples of Small Expected Frequencies and Chi-Squared Test*, S. K. KATTI, Florida State University, and A. N. SASTRI, Duke University Marine Laboratory.
5. *The Expected Intersection of a Random Sphere and a Fixed Sphere*, ANDRE G. LAURENT, Wayne State University.
6. *Inverse Moments*, ZAKKULA GOVINDARAJULU, Case Institute of Technology.
7. *Some New Inequalities of Chebyshev Type*, DONALD RICHTER, C. L. MALLOWS, and MILTON SOBEL, Bell Telephone Laboratories and University of Minnesota.
8. *Maximum Likelihood Estimates of Restricted Means of Discrete and Continuous Normal Processes* (Preliminary Report), H. D. BRUNK, University of California, Riverside.
9. *Vectorial Aspects of Analysis of Variance*, HOWARD W. ALEXANDER, Earlham College.

10:30 a.m.—12:20 p.m.—Contributed Papers IX

Chairman: Colin L. Mallows, Bell Telephone Laboratories

1. *On Rotation Sampling* (Preliminary Report), J. N. K. RAO and JACK E. GRAHAM, Iowa State University.
2. *Optimum Allocation for Sampling with Replacement in Stratified Sampling*, SAKTI P. GHOSH, IBM Research Center, Yorktown Heights.
3. *A New Approach to Factorial Experiments*, J. N. SRIVASTAVA, University of North Carolina.
4. *Adding Versus Deleting Predictor Variables in the Analysis of Incompletely Specified*

- Regression Models*, T. A. BANCROFT, Iowa State University, and HAROLD J. LARSON, Stanford Research Institute.
5. *The N-Response Problem*, JOHN LEROY FOLKS and CHARLES E. ANTLE, Oklahoma State University and Missouri School of Mines and Metallurgy.
 6. *Multivariate Analysis of Variance for a Special Covariance Case*, SEYMOUR GEISSER, National Institutes of Health.
 7. *Invariant Decompositions of Sums of Squares and Linear Sample Spaces*, ALAN T. JAMES, Yale University.
 8. *Multiple Comparison Tests in Multi-Response Experiments*, P. R. KRISHNAIAH, Univac, Blue Bell, Pa.

Contributed Papers Presented by Title

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2. *A Sequential Test for the Two Sample Problem*, SAUL BLUMENTHAL, University of Minnesota.
3. *Subsample Order Statistics Estimates*, BENJAMIN BUCHBINDER, General Electric Missile and Space Division, Valley Forge, Pennsylvania.
4. *Minimax Properties of Hotelling's and Certain Other Invariant Tests*, N. C. GIRI and J. KIEFER, Cornell University.
5. *Asymptotically Optimum Sequential Procedures. I. Inference*, J. KIEFER, Cornell University, and J. SACKS, Northwestern University.
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D. L. BURKHOLDER
Associate Secretary

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