

NEWS AND NOTICES

Personal Items

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

Professor Hermann Dinges of the Johann Wolfgang Goethe University, Frankfurt, Germany, is visiting professor at the Statistical Laboratory of The Catholic University of America, for the academic year 1968-69.

K. R. Gabriel has been elected chairman of the Department of Statistics, Hebrew University, Jerusalem.

Sebastian B. Littauer, at Columbia University for 22 years, has been named the recipient of the Great Teacher Award.

Martin Schatzoff has been appointed Manager, Operations Research at the IBM Cambridge Scientific Center after returning from a one year leave of absence at Yale University where he was Visiting Associate Professor of Statistics.

New Members

- Abdun-nur, Labib J.**, M.Sc., (American University of Beirut); Graduate Student, Department of Statistics, University of Connecticut.
- Aickin, Mikel G.**, B.S., (University of Washington); Graduate Student, Department of Mathematics, University of Washington.
- Andrews, Richard L.**, M.S., (University of Wisconsin); Graduate Student, Department of Statistics, University of Wisconsin.
- Andrews, Richard W.**, B.S., (U. S. Naval Academy); Graduate Student, Department of Statistics and Probability, Michigan State University.
- Bandes, Stephen H.**, M.S., (Purdue University); Graduate Student, Department of Statistics, Kansas State University.
- Book, Stephen A.**, M.A., (Cornell University); Graduate Student, Department of Mathematics, University of Oregon.
- Borack, Jules I.**, M.S., (Brooklyn College); Graduate Student, Department of Statistics, Cornell University.
- Brown, James Randall**, M.S., (Massachusetts Institute of Technology); Captain, U.S. Army, HQ, Army Materiel Command; Office of Chief Mathematician, Gravelly Point, Virginia.
- Burianek, Frank G.**, B.S., (University of Dayton); Graduate Student, Department of Statistics and Probability, Michigan State University.
- Chang, Boon-chong**, M.Sc., (McMaster University); Graduate Student, Department of Mathematics, University of Toronto.
- Cheng, Smiley W. H.**, B.Sc., (Tankang College of Arts and Sciences, Taiwan); Graduate Student, Department of Mathematics, The University of Western Ontario.
- Choi, Chi-Hoon**, M.S., (University of Michigan); Graduate Student, Department of Biostatistics, School of Public Health, University of Michigan.
- Driscoll, Michael F.**, M.S., (University of Arizona); Graduate Student, University of Arizona.
- Dumonceaux, Robert H.**, M.S., (University of Wisconsin, Madison); Graduate Student, University of Missouri at Rolla.
- Duncan, George Thomas**, M.S., (University of Chicago); Graduate Student, Department of Statistics, University of Minnesota.
- Fahey, Michael G.**, B.S., (Florida State University) Graduate Student, Air Force Institute of Technology, Wright-Patterson AFB, Ohio.
- Flaspohler, David C.**, M.S., (Xavier University); Graduate Student, Rutgers—The State University.

- Funes, Jorge A.**, M.S., (Universidad Nacional del Litoral, Republic of Argentina); Professor of Statistics, Universidad Nacional de Buenos Aires.
- Helmets, Merrilee K.**, B.S., (University of Washington); Graduate Student, Department of Statistics and Probability, Michigan State University.
- Henriksen, Larry W.**, B.A., (Carthage College); Graduate Student, Department of Statistics, Florida State University.
- Hopkins, John E.**, B.Sc., (Carleton University); Graduate Student, Department of Mathematics, University of Toronto.
- Hugand, Frank L.**, Ph.D., (Cornell University); Assistant Professor, Department of Mathematical Sciences and Department of Electrical Engineering, Rice University.
- Gaudiosi, John A.**, A.B., (Temple University); Graduate Student, University of Pennsylvania.
- Goldstein, Matthew**, M.S., (Rutgers—The State University); Graduate Student, Department of Statistics, University of Connecticut.
- Good, R. Michael**, B.S., (Xavier University); Graduate Student, Department of Statistics and Probability, Michigan State University.
- Gotts, Terry L.**, M.S., (Michigan State University); Graduate Student, Department of Statistics and Probability, Michigan State University.
- Gough, John Howard**, B.Sc., (University of Toronto); Graduate Student, University of Toronto.
- Guire, Kenneth E.**, M.S., (University of Michigan); Graduate Student, University of Michigan.
- Gupta, Jagdish Chandra**, M.Sc., (Agra University); Graduate Student, Department of Statistics, University of Chicago.
- Israel, Marvin D.**, B.S., (Rensselaer Polytechnic Institute); Graduate Student, Rensselaer Polytechnic Institute.
- Kaikow, Howard L.**, B.A., (City College of New York); Computer Programmer, St. Paul Campus Computing Center, University of Minnesota.
- Kinderman, Albert John**, B.S., (Stanford University); Graduate Student, Department of Statistics, University of Minnesota.
- Kinney, John J.**, M.S., (University of Michigan); Graduate Student, Iowa State University.
- Kumar, Arunod**, M.S., (Indian Statistical Institute); Graduate Student, Department of Statistics and Probability, Michigan State University.
- Llamas, Jose**, Ph.D., (Colorado State University); Research Engineer, Provincial Government of Quebec.
- McCauley, William R.**, B.S., (Florida State University); Graduate Student, Air Force Institute of Technology, Wright-Patterson AFB, Ohio.
- Maik, Russell L.**, B.S., (Oshkosh State College); Assistant Professor of Mathematics, Southern Colorado State College.
- Mangold, Donald Carl**, A.B., (University of California, Berkeley); Graduate Student, School of Industrial and Labor Relations, Cornell University.
- Marcus, Ruth**, M.S., (University of Chicago); Graduate Student, The Hebrew University of Jerusalem.
- Martel, Jean-Marc**, M.S., (Université Haval); Graduate Student, Department of Mathématiques Université de Montréal.
- Milliken, George A.**, M.S., (Colorado State University); Graduate Student, Colorado State University.
- Nikiel, Lawrence J.**, A.A., (Valley College); Quality Assurance Engineer, Marquarot Corporation, Van Nuys, California.
- Pollitzer, Eugene A.**, M.S., (Rutgers-The State University); Graduate Student, Florida State University.
- Pramanik, Ram Kamal**, M.S., (Utkal University, India); Graduate Student, Department of Mathematics, Simon Fraser University.

- Puterman, Mertin L.**, A.B., (Cornell University); Graduate Student, Department of Operations Research, Stanford University.
- Rao, Vijaya A.**, M.S., (Florida State University); Graduate Student, Department of Statistics, Florida State University.
- Reutelhuber, William O.**, M.S., (Rutgers—The State University); Member of the Technical Staff, Bell Telephone Laboratories, Inc., Holmdel, New Jersey.
- Rosenberg, Saul H.**, M.A., (Catholic University of America); Graduate Student, Department of Biostatistics, The Johns Hopkins University.
- Samata, Mrityunjay**, M.Sc., (University of Calcutta); Graduate Student, Department of Mathematics, University of Arizona.
- Scharpe, Michael J.**, Ph.D., (Yale University); Assistant Professor, Department of Mathematics, University of California, San Diego.
- Schwartz, Herbert J.**, M.A., (Claremont Graduate School); Assistant Professor, Department of Operations Analysis, U.S. Naval Post Graduate School, Monterey.
- Shubert, Bruno Otto**, Ph.D., (Charles University, Prague and Stanford University); Visiting Assistant Professor, Department of Electrical Engineering, University of Colorado, Boulder.
- Sielken, Robert Lewis, Jr.**, M.S., (Florida State University); Graduate Student, Department of Statistics, Florida State University.
- Streit, Franz**, Ph.D., (University of Bern); Visiting Assistant Professor, Department of Mathematics, University of Toronto.
- Stevens, Edward H.**, B.S., (Virginia Polytechnic Institute); Jr. Engineer, Telecom, Inc., McLean, Virginia.
- Scott, Christine Hart**, M.Sc., (Southampton University); Graduate Student, Department of Mathematics, Carleton University.
- Tenenbein, Aaron**, A.M., (Harvard University); Graduate Student, Department of Statistics, Harvard University.
- Trail, Stanley M.**, Ph.D., (Oklahoma State University); Assistant Professor, Department of Mathematics, Northern Illinois University.
- Tyler, Joseph S., Jr.**, B.S., (Morgan State College); Supervisory Mathematician, Chief Applied Mathematics Branch, Systems Analysis Office, Edgewood Arsenal, Maryland.
- Urgelles, Arlette L.**, statistician, (Central University of Venezuela); Statistician, Central Office of Coordination, Palacis Blanca, Caracas.
- Vidano, Lawrence E., Jr.**, M.S., (San Diego State College); Mathematical Statistician, U.S. Naval Fleet Missile Systems, Analysis and Evaluation Group, Corona, California.
- Wallenstein, Sylan R.**, B.S., (City College of New York); Graduate Student, Rutgers—The State University.
- Wilson, Wanda Mae**, B.A., (San Jose State College); Graduate Student, Department of Statistics, Oregon State University.
- Wolff, Ronald W.**, Ph.D., (Case Institute of Technology); Assistant Professor, Department of Industrial Engineering and Operations Research, University of California, Berkeley.
- Worthley, Reginald G.**, M.S., (Kansas State University); Graduate Student, Department of Statistics, Kansas State University.
- Zahn, Douglas A.**, A.M., (Harvard University); Graduate Student, Department of Statistics, Harvard University.

DOCTORAL DISSERTATIONS IN STATISTICS, 1967, 1968

Listed below are doctorates conferred during 1967 and 1968 in statistics and 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.

Abbey, Joseph Leo, Iowa State University, major in statistics, "Series representation of multivariate and sequential uniformly minimum variance unbiased estimates for exponential families"

Ahmad, Munir, Iowa State University, major in statistics, "Truncated multivariate Poisson distributions"

Al-Ani, Sabri, Purdue University, major in statistics "Some distribution problems concerning characteristic roots and vectors in multivariate analysis"

Allen, David Mitchell, North Carolina State University, major in experimental statistics, "Multivariate analysis of nonlinear models"

Andrews, David Francis, University of Toronto, major in statistics, "Transformations of structural models"

Arnold, Jesse Charles, Florida State University, major in statistics, "Estimation through preliminary tests"

Athanasopoulos, Demetrius, University of California, Berkeley, major in statistics, "Sampling for time series"

Atwood, Corey, Cornell University, major in mathematics, "Optimal and efficient design of experiments asymptotically nearly efficient estimators of multivariate location parameters"

Badrikian, Albert, University of Paris, major in probability, "Les elements aléatoires vectoriels et leurs fonctionnelles caractéristiques"

Battiste, Edward Louis, North Carolina State University, major in experimental statistics, "Prior information and ill-condition in regression systems"

Belkin, Barry, Cornell University, major in mathematics, "Some results in the theory of recurrent random walk"

Beran, R. J., The Johns Hopkins University, major in statistics, "Tests for uniformity of a distribution on a compact homogeneous space"

Bhattacharjee, Manish, University of California, Berkeley, major in statistics, "Optimal random walk via dynamic programming"

Bhattacharya, R. N., University of Chicago, major in statistics, "Berry-Esseen bounds for the multi-dimensional central limit theorem"

Bishop, Yvonne Millicent Mahalia, Harvard University, major in statistics, "Multi-dimensional contingency tables: Cell estimation"

Bloch, Daniel A., The Johns Hopkins University, major in statistics, "Some problems in statistical inference"

Boardman, Thomas J., Rutgers University, major in statistics, "On the maximum likelihood estimation of the parameters of mixed exponential distributions—with applications to life testing"

Bondar, James Vernon, University of Toronto, major in statistics, "Groups and statistical models: invariance and structural duality"

Brelsford, William M., The Johns Hopkins University, major in statistics, "Probability predictions and time series with periodic structure"

Breslow, Norman Edward, Stanford University, major in statistics, "A class of sequential procedures for medical trials"

Bretagnolle, Jean, University of Paris, major in probability, "Recurrence et processus aléatoires à accroissements indépendants"

Brock, Archie Doyle, Virginia Polytechnic Institute, major in statistics, "The distributions of X^v and Z^* when the distribution of the complex variable Z is a member of a particular family of distributions"

Brown, Bruce Maxwell, Purdue University, major in statistics, "Moments of a stopping rule related to the central limit theorem"

Brown, Mark, Stanford University, major in statistics, "Convergence in distribution of stochastic integrals"

Bruckner, Lawrence A., The Catholic University, major in mathematics, "Some contributions to the theory of homogeneous random fields on locally compact Abelian groups"

Cane, Gwenda Jessica, University of New England, major in mathematical statistics, "Non-parametric tests for scale"

Carney, Edward John, Iowa State University, major in statistics, "Computation of variances and covariances of variance component estimates"

Carter, Walter Hansbrough, Jr., Virginia Polytechnic Institute, major in statistics, "Grouping in item demand problems"

Casey, B. D., University of Chicago, major in statistics, "Some multidimensional incomplete block designs"

Chao, Min-te, University of California, Berkeley, major in statistics, "Nonsequential optimal solutions of sequential decision problems"

Chatterjee, Samprit, Harvard University, major in statistics, "Allocation problems in multivariate surveys"

Cheong, Hock Aun, Australian National University, major in mathematical statistics, "Some applications of the saddle point method in probability theory"

Chitgopekar, Sharad Shankar Rao, Florida State University, major in statistics, "Continuous time Markovian sequential control processes"

Choudary, Hanumara Ramachandra, Florida State University, major in statistics, "Variance component analysis in a two-way layout with unequal variances"

Cohen, Ayala, The Johns Hopkins University, major in statistics, "On random fields"

Coleman, Roger D., The Johns Hopkins University, major in statistics, "Some models for interaction of renewal processes"

Cooke, Peter John, University of New England, major in mathematical statistics, "Sequential estimation of the parameter of a uniform distribution"

Courrege, Philippe, University of Paris, major in mathematics, "Recollement de processus de Markov. Semi-groupes de Feller sur une variété à bord compact"

Dacunha-Castelle, Didier, University of Paris, major in probability, "Formes lineaires aleatoires et espaces d'Orlicz"

D'Agostino, Ralph Benedict, Harvard University, major in statistics, "Estimation of percentiles of continuous populations"

Davis, Burgess James, University of Illinois, major in mathematics, "Martingale comparisons"

Davis, Herbert T., The Johns Hopkins University, major in statistics, "Inference based on the periodogram for stationary Gaussian time series"

DeGracie, James Sullivan, Iowa State University, major in statistics, "Analysis of covariance when the concomitant variable is measured with error"

Denby, Daniel Caleb, Virginia Polytechnic Institute, major in statistics, "A race to the origin between N random walks"

Dick, Walter J., Rutgers University, major in statistics, "The Fisher-Yates correlation coefficient"

Dowling, Thomas A., University of North Carolina, major in statistics, "Construction of codes for the Gaussian channel"

Drolette, Margaret Elizabeth, Harvard University, major in statistics, "Exponential models for survival in chronic disease"

Dunlap, Paul R., The American University, major in mathematics and statistics, "Posterior interval estimation of the unequal variance case"

Eagleson, Geoffrey Kennedy, University of Sydney, major in mathematical statistics, "The theory of correlation and functional analysis"

Echambadi, Thirukkannamangai and Raghavan, Srinivasa, Indian Statistical Institute, major in statistics, "Extension of the theory of positive operators and their relationship to minimax games"

Fairley, William Bishop, Harvard University, major in statistics, "Roots of random polynomials"

Feder, Paul Ira, Stanford University, major in statistics, "On the likelihood ratio statistic with applications to broken line regression"

Fienberg, Stephen Elliott, Harvard University, major in statistics, "The estimation of cell probabilities in two-way contingency tables"

Fox, Richard J., Michigan State University, major in statistics and probability, "Contributions to compound decision theory and empirical Bayes squared loss estimation"

Gebert, James Robert, Iowa State University, major in statistics, "Tests of goodness of fit based on discriminatory information"

Geertsema, Jan Cornelius, University of California, Berkeley, major in statistics, "Sequential confidence intervals based on rank tests"

Giesbrecht, Francis Gerhard, Iowa State University, major in statistics, "Study of residuals in planned experiments"

Gimon, Jean-Paul Georges, Stanford University, major in statistics, "A continuous time inventory model"

Glasser, Jay Howard, North Carolina State University, major in experimental statistics and public health, (joint major), "A stochastic model for industrial absenteeism"

Goldstein, Jerome A., Carnegie-Mellon University, major in mathematics, "Stochastic differential equations and nonlinear semi-groups"

Gomberg, David, University of California, Berkeley, major in statistics, "Estimation of asymptotes"

Gupta, Arjun Kumar, Purdue University, major in statistics, "Some central and non-central problems in multivariate analysis"

Gupta, Ram Prakash, Indian Statistical Institute, major in statistics, "Studies in the theory of graphs"

Hackleman, Ronald Paul, Carnegie-Mellon University, major in mathematics, "Metric spaces of distribution functions and statistical information"

Hadidi, Nasser, Virginia Polytechnic Institute, major in statistics, "Correlation between arrival and service patterns as a means of queue regulation"

Hamilton, Martin Alva, Stanford University, major in statistics, "The Robbins-Monro stochastic approximation approach to a discrimination problem"

Hampel, Frank, University of California, Berkeley, major in statistics, "Contributions to the theory of robust estimation"

Han, Chien-Pai, Harvard University, major in statistics, "Testing the homogeneity of a set of correlated variances"

Hanurav, Thogarrathi Venkata, Indian Statistical Institute, major in mathematics, "Optimum sampling strategies and some related problems"

Heilbron, David, University of California, Berkeley, major in statistics, "Estimating the variability of systematic sampling"

Hildebrand, David K., Carnegie-Mellon University, major in statistics, "On tandem server, finite queue, service systems"

Hinz, P. N., University of Wisconsin, major in statistics, "Fitting of data by generalized Poisson distributions, and some tests of hypotheses"

Hou, Tien-fang, University of California, Berkeley, major in statistics, "Weak approachability in a two-person game"

Howe, Richard Burton, Virginia Polytechnic Institute, major in statistics, "On tests involving linear combinations of variance components"

Hunter, Jeffrey J., University of North Carolina, major in statistics, "On the renewal density matrix of semi-Markov process"

Hussain, Ashiq, North Carolina State University, major in experimental statistics, "Combining time series and cross-section data in simultaneous linear equations"

Hwang, Frank, North Carolina State University, major in experimental statistics, "An inventory model with special sale"

Jacobsen, Robert L., Cornell University, major in statistics, "Linear algebra and ANOVA"

Johnson, John Peter, Iowa State University, major in statistics, "Pooling regressions and a statistical outlier methodology for lines"

Johnston, Bruce Owen, North Carolina State University, major in experimental statistics, "Spacing of information in the simple exponential model"

Joiner, Brian L., Rutgers—The State University, major in statistics, "Some properties of four Cochran-type tests for homogeneity of variance"

Jones, Roger Daniel Hewart, Virginia Polytechnic Institute, major in statistics, "Sequential analysis of variance with unequal numbers in experimental units"

Juola, Robert C., Michigan State University, major in statistics and probability, "Application of dynamic programming methods to a problem of identification by sequential experimentation"

Kalotay, Andrew John, University of Toronto, major in statistics, "Transformation models and statistical inference"

Kaminsky, Kenneth S., Rutgers—The State University, major in statistics, "Exact and approximate confidence intervals for the scale parameter of the exponential distribution using optimally chosen order statistics"

Kaplan, Robert S., Cornell University, major in operations research, "Optimal policies for sequential inventory and investment modes"

Karson, Marvin Jay, North Carolina State University, major in experimental statistics, "Bias and variance criteria for estimators and designs for fitting polynomial responses"

Kelker, Douglas H., University of Oregon, major in mathematics, "Distributions and some characterization theorems"

Kissin, Sidney, The Catholic University, major in mathematics, "The class of random sequences that are strictly stationary of order k "

Kleyle, Robert M., Harvard University, major in statistics, "An application of the direct probability method of inference"

Koch, Gary G., University of North Carolina, major in statistics, "The design of combinatorial information retrieval systems for files with multiple-valued attributes"

Koehn, Uwe, University of Illinois, major in mathematics, "Global cross sections and invariant measures with applications to the densities of maximal invariants"

Koul, Hira Lal, University of California, Berkeley, major in statistics, "Estimation by method of ranks in regression models"

Krishnan, Thriyambakam, Indian Statistical Institute, major in mathematics, "Threshold order of a switching function and stochastic dependence of inputs"

Kulkarni, Shridhar, University of California, Berkeley, major in statistics, "Optimal $C(\alpha)$ and $C(\alpha)$ tests for the presence of variable effects of a treatment"

Lalchandani, Atma P., Cornell University, major in operations research, "Some limit theorems in queuing theory"

Land, Charles, University of Chicago, major in statistics, "Tests and confidence intervals from transformed data"

Larsen, Wayne Ammon, Virginia Polytechnic Institute, major in statistics, "The analysis of variance for the two-way classification fixed effects model with dependent observations"

Levenbach, Hans, University of Toronto, major in statistics, "Reductions in the unitary structural model"

Lever, William Edwin, Florida State University, major in statistics, Part 1—"The limiting distribution of the likelihood ratio statistic— $2\ln\lambda_n$ under a class of local alternatives" Part 2—"Minimum average risk decision procedures for the noncentral Chi-square distribution"

Lientz, Benjamin P., University of Washington, major in mathematics, "On the distribution of Rényi-type statistics and power of the corresponding tests"

Lund, David R., University of Wisconsin, major in statistics, "Parameter estimation in a class of power distributions"

Margolin, Barry Herbert, Harvard University, major in statistics, "The design and analysis of $2^n 3^m$ incomplete factorial experiments"

Martin, Donald Charles, Florida State University, major in statistics, "Classification procedures based upon dichotomous multivariate observations"

Martin, Frank Burke, Iowa State University, major in statistics, "Contributions to the theory of estimation in the general linear model"

Martz, Harry Franklin, Jr., Virginia Polytechnic Institute, major in statistics, "Empirical Bayes estimation in multiple linear regression"

Mason, Frank Duff, North Carolina State University, major in experimental statistics, "Simulation of a multi-station system of queues with delayed exponential service"

Maynard, James M., Rutgers—The State University, major in statistics, "Pitman-type 'close' estimators for the parameters of some discrete distributions"

Mazumdar, Sati, Cornell University, major in statistics, "On waiting-time distributions in priority queues when service orientation times occur"

Meeden, Glen Dale, University of Illinois, major in mathematics, "Some problems in prediction theory"

Mehta, J. S., University of Wisconsin, major in statistics, "Preliminary testing and continuous weight functions as an approach to problems in statistical inference"

Memon, Ahmed Zogo, Iowa State University, major in statistics, "Z statistic in discriminant analysis"

Mensing, Richard Walter, Iowa State University, major in statistics, "Method of images in the plane"

Meyer, Richard M., University of North Carolina, major in statistics, "Some Poisson-type limit theorems for sequences of dependent Raa events, with applications"

Millar, Pressley Warwick, University of Illinois, major in mathematics, "Martingale integrals"

Moore, David, Cornell University, major in mathematics, "Optimal and efficient design of experiments asymptotically nearly efficient estimators of multivariate location parameters"

Morianan, Thomas, Rutgers—The State University, major in statistics, "Cut-off point prediction model for single component multi-state experiment"

Morris, Carl Neracher, Stanford University, major in statistics, "Admissible Bayes procedures and classes of epsilon Bayes procedures for testing hypotheses in a multinomial distribution"

Mukherjea, Arunava, Wayne State University, major in mathematics, "Random transformation on Banach spaces"

Murphy, Brian Patrick, University of Sydney, major in mathematical statistics, "The effect of inequality of variances on the analysis of variance tests with particular reference to the sample problems. A stimulation study"

Murty, Uppaluri Siva Ramachandra, Indian Statistical Institute, major in statistics, "Extremal graph theoretic problems with applications to communication networks"

McCabe, Bernard, The Catholic University, major in mathematics, "Some contributions to the theory of positive definite functions on groups"

McMillan, Robert Glen, North Carolina State University, major in experimental statistics, "Tests for one or two outliers"

Padmanabhan, Appaswamy Ramanathan, Indian Statistical Institute, major in mathematics, "Probabilistic aspects of rings of operators"

Paik, Uhn Boong, Cornell University, major in statistics, "Analyses of non-orthogonal n -way classifications and fractional replicates"

Paloheimo, Jyri Erkki, University of Toronto, major in statistics, "On theory of search"

Park, C. J., University of Wisconsin, major in statistics, "The distribution of weighted linear combinations of cell frequency counts"

Park, Hong Nai, North Carolina State University, major in experimental statistics, "Comparison of estimators for multi-stage designs when sampling on successive occasions"

Parthasarathy, Thiruvenkatachari, Indian Statistical Institute, major in statistics, "Minimax theorems and product solutions"

Patton, Robert Allen, University of Missouri-Columbia, major in statistics, "A para-

meterization of a form of the logistic and a Monte Carlo study of the estimators from small samples"

Payen, Raymond, University of Paris, major in probability, "Fonctions aleatoires du second ordre a valeurs dans un espace de Hilbert"

Periman, Eugene Avon, Virginia Polytechnic Institute, major in statistics, "Specification orientated limits"

Perlman, Michael David, Stanford University, major in statistics, "One-sided problems in multivariate analysis"

Perng, Shian Koong, Michigan State University, major in statistics and probability, "Inadmissibility of various "good" statistical procedures which are translation invariant"

Pierce, D. A., University of Wisconsin, major in statistics, "Studies in the modeling of stochastic and dynamic systems with special reference to the distribution of residual correlations"

Pollard, Ralph, University of Wisconsin, major in statistics, "The estimation of derivatives and parameters from discrete and continuous data"

Poole, William K., University of North Carolina, major in statistics, "Some aspects of linear prediction in stationary time series"

Priouret, Pierre, University of Paris, major in mathematics, "Processus de Markov sur une variete a bord compact"

Rabinowitz, Larry, Rutgers—The State University, major in statistics, "Reachability and connectedness in random graphs and digraphs"

Ramanujacharyulu, Chilakamarri, Indian Statistical Institute, major in statistics, "Solutions of some balanced, doubly balanced and partially balanced statistical designs"

Raynaud, Herve, University of Paris, major in probability, "Sur les graphes aleatoires et sur les nuages de points"

Rohatgi, Vijay K., Michigan State University, major in statistics and probability, "Some results on convergence rates and asymptotic behaviour for the laws of large numbers"

Root, David H., University of Washington, major in mathematics, "Construction of almost surely convergent random processes"

Rosenzweig, Martin Stephen, Iowa State University, major in statistics, "Ordered estimators for skewed populations"

Ross, Sheldon Mark, Stanford University, major in statistics, "Denumerable Markovian decision models"

Royall, Richard Miles, Stanford University, major in statistics, "A class of non-parametric estimates of a smooth regression function"

Ruhl, Donna Jean Brogan, Iowa State University, major in statistics, "Preliminary test procedures and Bayesian procedures for pooling correlated data"

Ruiz-Moncayo, Alberto, University of California, Berkeley, major in statistics, "Optimal stopping for functions of Markov chains"

Russell, Charles Bradley, Florida State University, major in statistics, "Three papers on optimal strategies on surveillance theory"

Ryan, Thomas A., Jr., Cornell University, major in mathematics, "On age-dependent branching processes"

Sampson, Charles Berlin, Iowa State University, major in statistics, "Contributions to the study of sequential covariance analysis"

Scheaffer, Richard L., Florida State University, major in statistics, "Statistical procedures for some problems in inverse sampling of bulk materials"

Schilling, Edward G., Rutgers—The State University, major in statistics, "A general method for determining the operating characteristics of mixed variables—attributes sampling plans, single sided specifications, standard deviation known"

Schulzer, Michael, University of Washington, major in mathematics, "Contributions to the k -sample problem: a symmetric spacings statistic"

Seneta, Eugene, Australian National University, major in mathematical statistics, "Topics in the theory and application of Markov chains"

Serfling, Robert J., University of North Carolina, major in statistics, "Contributions to central limit theory for dependent variables"

Sharpe, Kenneth, University of Melbourne, major in mathematical statistics, "Robustness of normal tolerance intervals"

Shaughnessy, Peter W., The Catholic University, major in mathematics, "The distribution theory of runs in finite Markov chains"

Sheehan, Daniel Michael, Virginia Polytechnic Institute, major in statistics, "The computational approach to sampling methods: A study of certain estimators for the negative binomial distribution"

Singer, Burton Herbert, Stanford University, major in statistics, "Some limit theorems for Markov chains and related occupancy problems"

Singh, Jagbir, Florida State University, major in statistics, "The treatment of ties in paired comparisons"

Smith, Kempton J. C., University of North Carolina, major in statistics, "Majority decodable codes derived from finite geometries"

Snee, Ronald D., Rutgers—The State University, major in statistics "Statistical design and analysis of shape studies"

Solomon, Daniel Lester, Florida State University, major in statistics, "Partially Bayes estimates"

Soults, Donald Jay, Iowa State University, major in statistics, "Asymptotic value distributions for matrix games"

Springall, Anthony, Virginia Polytechnic Institute, major in statistics, "Contributions to Lanchester combat theory"

Srirama, Mandyam Kopay, University of California, Berkeley, major in biostatistics, "A stochastic model in the study of fertility and reproduction"

Staudte, Robert George, University of Illinois, major in mathematics, "Invariance theory and sequential estimation"

Steinberg, Leonard Moses, University of Toronto, major in statistics, "Data transformation and the multilinear model"

Stigler, Stephen, University of California, Berkeley, major in statistics, "Linear functions of order statistics"

Stroud, Thomas William Felix, Stanford University, major in statistics, "Comparing conditional distributions under measurement errors of known variances"

Sweat, Calvin Wayne, University of California, Berkeley, major in statistics, "Adaptive competitive decision in repeated play of a matrix game with uncertain entries"

Tafeen, Stephen Michael, Stanford University, major in statistics, "A Markov decision process with costly inspection"

Tan, Peter Ching-Yao, University of Toronto, major in statistics, " R -regular statistical models sufficiency and conditional sufficiency"

Torgersen, Erik, University of California, Berkeley, major in statistics, "Comparison of experiments when the parameter space is finite"

Toro-Vizcarrondo, Carlos Enrique, North Carolina State University, major in experimental statistics, "Multicollinearity and the mean square error criterion in multiple regression: a test and some sequential estimator comparisons"

Townsend, Edwin C., Cornell University, major in statistics, "Unbiased estimators of variance components in simple unbalanced designs"

Tsao, Rhett Fensheng, Harvard University, major in statistics, "A second order exponential model for multidimensional dichotomous contingency tables"

Van Arman, Donald, Purdue University, major in statistics, "Classification of experimental designs relative to polynomial spline regression functions"

Van Belle, Gerald, University of Toronto, major in statistics, "Location analysis and the Poisson distribution"

van der Meulen, Edward, University of California, Berkeley, major in statistics, "Transmission of information in a T -terminal discrete memoryless channel"

Waikar, Vasant B., Florida State University, major in statistics, "Inference with tested priors"

Weed, Harrison D., Jr., Florida State University, major in statistics, "Sequential one-sample grouped rank tests for symmetry"

Wheeler, Alan Clement, Stanford University, major in statistics, "Multiproduct inventory models with set-up cost"

Whitney, James Bedford, University of Toronto, major in statistics, "An analysis of probability distributions derived from the structural model"

Wilkinson, William E., University of North Carolina, major in statistics, "Branching processes in stochastic environments"

Wolf, Edward H., Rutgers University, major in statistics, "A test for randomness on the line and a related k -sample test for homogeneity"

Wong, Seok Pin, University of Illinois, major in mathematics, "Asymptotically optimum properties of certain sequential tests"

Worthington, Frank M., Cornell University, major in operations research, "Some ladder processes in continuous time with application to queues"

Wright, Farroll Tim, University of Missouri-Columbia, major in statistics, "Some results giving rates of convergence for infinite p -adic forms in independent random variables"

Yarnold, James, University of Chicago, major in statistics, "The accuracy of seven approximations for the null distribution of the chi-square goodness of fit statistic"

Yusuf-Mia, Mohammed, Iowa State University, major in statistics, "Sampling designs employing restricted randomization"

Zidek, James Victor, Stanford University, major in statistics, "On the admissibility of formal Bayes estimators"

BIOSTATISTICAL SUMMER SESSION AT SEATTLE

The eleventh annual Summer Statistical Session in the Health Sciences will be held at the University of Washington, June 23–August 1, 1969. This program offers courses at a wide range of academic and experience levels. Stipends are available for candidates qualified academically and/or by professional experience and training. For further information write:

Division of Biostatistics (SSS)
 Department of Preventive Medicine
 University of Washington
 Seattle, Washington 98105

THE FIRST INTERNATIONAL SYMPOSIUM ON NONPARAMETRIC TECHNIQUES IN STATISTICAL INFERENCE

The Department of Mathematics of Indiana University at Bloomington will hold the first International Symposium on Nonparametric Techniques in Statistical Inference from June 1, 1969 to June 6, 1969, with the support of the Air Force Office of Scientific Research. The symposium will feature invited presentations on nonparametric methods in estimation theory, sequential analysis, testing of statistical hypotheses, problems of selection and ranking, robustness and related areas.

The purpose will be to provide a forum for the dissemination of recent research in these areas and the stimulation of research and scholarship through lectures of eminent scholars from different institutions in the United States and abroad. Both methodology and applications will be discussed.

This will be the first symposium in the United States on Nonparametric Inference. It is planned that the proceedings of the symposium will be published.

Attendance at the symposium is open to any one interested. Inquiries regarding the symposium should be addressed to:

Professor Madan L. Puri
Department of Mathematics
Indiana University
Bloomington, Indiana 47401

ADVANCED SEMINAR IN STATISTICS

The Department of Statistics of the Virginia Polytechnic Institute will offer June 12-July 19, 1969 an Advanced Seminar in Statistics under a grant from the National Science Foundation. The program has the cooperation of the Committee on Statistics of the Southern Regional Education Board.

The seminar will be divided into two parts. Part I: Modern Topics in Statistics and Combinatorial Probability to be selected from: a. Reliability; b. Pattern Recognition; c. Machine intelligence; d. Combinatorial problems in physics and chemistry; e. Generalized Lagrange expansion and its applications to branching processes; f. The fast Fourier transform; g. Characteristic functions of functions; h. Explanatory power; i. Utility of a distribution; j. Singular decomposition of a matrix.

Dr. I. J. Good, Research Professor of Statistics at the Virginia Polytechnic Institute, will direct and serve as a leader of the discussions for the Modern Topics in Statistics. He will be assisted by five or more from the following list. 1. Dr. Rolf Bargmann; 2. Dr. Michael Fisher; 3. Dr. John Hammersley; 4. Dr. Seymour Papert; 5. Dr. Frank Proschan; 6. Dr. Christopher Zeeman.

Part 2: Seminar in Congestion Theory: This part of the Advanced Seminar will be conducted by Professor Brian Conolly formerly of the staff of the Virginia Polytechnic Institute and now Research Scientist with the North Atlantic Treaty Organization in La Spezia, Italy. For this part of the Seminar the advanced students should have a thorough background in Probability Theory and an adequate mathematical background including advanced calculus, knowledge of the theory of Bessel functions, Laplace Transforms and difference equations.

For further information concerning the Advanced Seminars, please write to:

Dr. Boyd Harshbarger, Head
Department of Statistics
Virginia Polytechnic Institute
Blacksburg, Virginia 24061

37TH SESSION OF THE INTERNATIONAL STATISTICAL INSTITUTE LONDON, 3-11 SEPTEMBER 1969

At the invitation of the Royal Statistical Society the 37th Session of the International Statistical Institute will take place in the Senate House of the University of London and the London School of Hygiene and Tropical Medicine. The following scientific programme has been provisionally arranged:

1. Uses and limitations of regression techniques
2. The impact of the computer on methods of Statistical Analysis
3. Data banks, including questions of confidentiality
4. Decision problems in marketing
5. Problems of capital planning
6. Manpower projection joint with population union
7. Index-number problems in the measurement of capital stock

Organisers

C. R. Rao
M. J. R. Healy
J. Ch. W. Verstege
H. S. Sichel
B. Barberi
H. P. Lacroix
K. M. Archer &
F. B. Horner

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| 8. Optimal stopping rules and sequential design | F. Mosteller |
| 9. Multiple contingency tables | H. O. Lancaster |
| 10. Statistical topics in operational research joint meeting
with Royal Statistical Society | P. Whittle |
| 11. Meeting of the International Association for Statistics in
the Physical Sciences | M. S. Bartlett |
| 12. Evaluation of social programmes | R. Wagenführ |
| 13. Practical applications of stochastic processes | Elizabeth L. Scott |
| 14. A meeting for two review papers: | |
| (a) Seasonal adjustment procedures by J. Shiskin | |
| (b) Cluster analysis by L. N. Bolshev | |

Two categories of papers may be presented at the Session: *Invited Papers* These can only be presented at the request of the organiser of an individual meeting. *Contributed Papers* Each member of the International Statistical Society is entitled to offer *one* contributed paper of not more than 1,500 words. Nonmembers of the ISI who have received an invitation and who actually attend the Session may also offer one contributed paper. Contributed papers on topics listed on the programme will be considered for the appropriate meeting. Contributed papers on other topics will be considered but if there is a large number of such papers it may be necessary *to restrict acceptance*.

An invitation to attend the Session will be addressed to: 1. Members of the International Statistical Institute and of its sections; 2. Non-members who are sponsored by a member of the I.S.I.

Further information about registration and submission of papers will be available in Information Bulletin No. 1.

Correspondence concerning the Session should be addressed to:

Dr. J. A. Heady,
Hon. Organising Secretary,
37th Session of the I.S.I.,
11 Whitehall Court,
London, S.W. 1.

TWELFTH BIENNIAL INTERNATIONAL SEMINAR OF THE CANADIAN MATHEMATICAL CONGRESS

The 12th Biennial International Seminar of the Canadian Mathematical Congress will be held at the University of British Columbia in Vancouver, Canada, from August 11 through August 27, 1969. This Seminar will be followed by the annual meeting of the Canadian Mathematical Congress at the University of Victoria, in Victoria, Canada, from August 28 through August 30.

The theme of the Seminar will be "Time Series and Stochastic Processes; Convexity and Combinatorics." Four series of Research Lectures at the post-doctoral level will be given; 'Dual processes and potential theory' by R. K. Gettoor; 'Convexity and combinatorics' by V. L. Klee; 'Current problems in time series' by E. Parzen; 'Application of probability theory to other areas of mathematics' by A. Renyi. Three series of instructional lectures at the predoctoral level will be given; 'Frequency analysis of relations between stationary time series' by D. R. Brillinger; 'Markov chains: potentials and boundaries' by D. A. Dawson; 'Combinatorial graph theory: tree and external problems' by J. W. Moon.

Further information about the Seminar and application forms may be obtained from the Program Chairman, Ronald Pyke, Dept. of Math., U. of Washington, Seattle, Wash. 98105.

ABSTRACTS TO THE MANAGING EDITOR

Hereafter, abstracts of papers should be sent to Professor Kempton C. Smith, Department of Statistics, University of North Carolina, Chapel Hill, North Carolina 27514, instead of Professor Paul Meyer at Pullman, Washington. Beginning with the August issue of the *Annals*, Professor Smith will assume the duties of the Managing Editor.