

NEWS AND NOTICES

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

Personal Items

Professor Ulf Grenander of the University of Stockholm is visiting the Division of Applied Mathematics, Brown University, and the Thomas J. Watson Research Laboratories, IBM, from January 1st to June 30th 1965.

Dr. Glenn W. Graves of the Aerospace Corporation is now deceased.

Mr. Richard Chien Wen Kao is now deceased.

Mrs. Donna Jean Ruhl has been named a recipient of the George W. Snedecor Award for 1965. Mrs. Ruhl is one of two winners of this award that is given annually to the most outstanding candidate for the Ph.D. degree in statistics at Iowa State University.

David R. Thomas has been named recipient of the George W. Snedecor Award for 1965 at Iowa State University. This marks the first year that two winners have been named for the award, given annually to the most outstanding candidate for the Ph.D. degree in statistics at Iowa State University.

J. D. Williams is now deceased.



NEW MEMBERS

Anderson, Mary R., M.S., (State University of Iowa); Instructor, State University of Iowa; 180 Riverside Park, Iowa City, Iowa 52240.

Bheboodjan, Javad, Ph.D., (University of Michigan); Assistant Professor, Pahlavi University, Iran; *Kashi 10, Kucheh Firoozi, Fakhraabad St., Shiraz, Iran.*

Bernier, Jacques, Licencié ès Sciences, (Université de Paris); Ingénieur Chercheur, Electricité de France Centre de Recherches et d'Essais de Chatou, France.

Borglum, Dale Gutzon, A.B., (University of California, Berkeley); Graduate Student/Research Assistant, Department of Statistics, Stanford University.

Bratcher, Thomas L., B.S., (Arlington State College); Graduate Student, Department of Mathematical and Experimental Statistics, Southern Methodist University.

Chambers, John M., A.M., (Harvard University); Graduate Student, Department of Statistics, Harvard University.

Dolan, Malcolm George, B.S., (Stanford University); Graduate Student, Stanford University; 16012 Via Paro, San Lorenzo, California.

Gans, Daniel J., M.S., (University of Illinois); Graduate Student, University of Illinois; 300 S. Goodwin Avenue, Urbana, Illinois 61801.

Heilbron, David C., B.S., (Stanford University); Graduate Student/Teaching Assistant, Department of Statistics, University of California, Berkeley; 2419 Durant, Apt. 20, Berkeley, California 94704.

MacLean, Charles Jacob, M.S., (New York University); Member of the Technical Staff, MITRE Corp., 2009 14th Street, Arlington, Virginia.

Maillox, Michel, Maîtrise en Statistiques, (Université de Montreal, Canada); Graduate Student, Université de Montreal.

Miller, Millage C., III, Ph.D., (University of Oklahoma); Assistant Professor, Department of Preventive Medicine and Public Health, University of Oklahoma Medical Center.

- Mohn, Erik**, Naturvitenskapelig Embetseksamen, (Universitete i Oslo, Norway); Research Statistician, Norsk Regnesentral, Forskningsveien 1, Blindern, Norway.
- Molenaar, Wouter**, Doctoral examen Wiskunde, (University of Amsterdam, Netherlands); Research Fellow, Mathematisch Centrum, 2^e Boerhaavestraat 49, Amsterdam-0, Netherlands.
- Richardson, Henry R.**, M.S., (Brown University); Associate, Daniel H. Wagner, Associates, 1770 Lancaster Avenue, Paoli, Pennsylvania.
- Robillard, Pierre**, B.S., (University of Montreal); Graduate Student, University of Montreal.
- Rodrigo, Stefanie**, M.S., (Cornell University); Reliability Engineer, Autonetics, Division of North American Aviation, 3370 Miraloma Avenue, Anaheim, California; *1139 Casa Grande, Apt. H, Anaheim, California.*
- Roos, Paul**, Diplommathematiker, (T. H. Stuttgart, Germany); Wissenschaftlicher Assistent, Technische Hochschule Stuttgart, Recheninstitut, Herdweg 51, 7 Stuttgart, Germany.
- Roth, Richard J., Jr.**, B.S., (Stanford University); Mathematician, Pratt and Whitney Aircraft Division of United Aircraft Corp., East Hartford, Connecticut; *21 Cedar Ledge Road, West Hartford, Connecticut.*
- Schultz, Gary D.**, Student, University of Chicago; *4415 North Malden, Chicago, Illinois 60640.*
- Seber, George A. F.**, Ph.D., (Manchester University); Lecturer, Mathematics Department, University of Auckland, New Zealand.
- Shah, Kirtikumar Ramanlal**, Ph.D., (Indian Statistical Institute, India); Assistant Professor, Department of Statistics, Michigan State University.
- Shumway, Robert H.**, Ph.D., (George Washington University); Senior Statistician, Westat Research Analysis, Inc., 4600 Glenbrook Parkway, Bethesda, Maryland; *1200 North Nash Street, 531, Arlington, Virginia 22209.*
- Singh, Jagdish Bux**, M.Sc., (Lucknow University, India); Statistician-cum-Lecturer, Department of Social and Preventive Medicine, K.G.'s Medical College, University of Lucknow, India.
- Smith, Kempton J. C.**, B.S., (Carleton University, Canada); Graduate Student, Department of Statistics, University of North Carolina; *302 Connor, Chapel Hill, North Carolina.*
- Weinman, David G.**, M.S., (Marquette University); Graduate Student, Arizona State University; 815 N. Hayden Road—B211, Scottsdale, Arizona.
- Whipple, Walter L.**, B.S. (Harvey Mudd College); Graduate Student, Department of Statistics, University of California, Berkeley.
- Yusuf, Mohammed**, B.Sc., (University of Dacca, East Pakistan); Graduate Student, Iowa State University.

FIFTH SYMPOSIUM ON MATHEMATICAL STATISTICS AND PROBABILITY

The Symposium will be held at the University of California, Berkeley, from June 21 to July 18, 1965. It is being organized by the Statistical Laboratory of the University with the financial support of NSF, ARO, AFOSR, and NIH (National Institutes of Health).

The Institute of Mathematical Statistics will be represented on the Advisory Committee of the Symposium by Professors S. Karlin and H. E. Robbins, and by Professor D. L. Burkholder, editor of the *Annals of Mathematical Statistics*. The American Mathematical Society will be represented by J. L. Doob. The

Committee on Local Arrangements consists of Professors E. W. Barankin, E. Fix, L. LeCam, J. Neyman, and E. L. Scott.

The preliminary program lists over 100 lectures. As a rule, four lectures will be scheduled for each day of the Symposium. The program will also include discussion sessions. It is expected that there will be approximately fifty foreign participants.

Lectures on theory will take place for the duration of the Symposium. Starting July 1, however, there will be several sessions devoted to applications, arranged by agreement with Professor L. Moses, Chairman of the Statistics Department, Stanford University. One day of lectures will be held at Stanford.

Additional Sessions will be scheduled in connection with the AAAS meeting to be held at Berkeley in December, 1965.

ESTABLISHMENT OF A PRIZE IN HONOR OF PAUL LÉVY

A prize in honor of Paul Lévy on the occasion of his election to the French Academy of Sciences has been established by some of his friends and colleagues (Denjoy, Fréchet, Montel, Dugué, Fortet, Loève, and twenty others). The prize will be given to an author of one or more papers on Brownian motion with n parameters (n finite or infinite). In case no paper on exactly this topic is submitted, the prize or prizes may be awarded to a paper on stochastic processes. Candidates for the Paul Lévy Prize should send three typed copies of their papers, written in either French, English, or German, to M. Daniel Dugué, Directeur de l'Institut de Statistique de l'Université de Paris-9, quai St. Bernard, Paris (V), before January 1, 1966. The prize or prizes will be awarded before March 31, 1966. A subscription to support the prize is underway. Subscribers should send their payments to the Société Amicale des Anciens Elèves de l'Ecole Polytechnique. This society will collect the funds which may be sent either by check or transmitted to the postal checking account Paris 21-39 indicating "Souscriptions pour le prix Paul Lévy."

REPORT OF THE CHICAGO, ILLINOIS MEETING OF THE INSTITUTE OF MATHEMATICAL STATISTICS

The one-hundred-third meeting of the Institute of Mathematical Statistics, the Central Regional meeting, was held at the Pick-Congress and Sheraton-Blackstone Hotels in Chicago, Illinois, on December 27-30, 1964 in conjunction with the annual meeting of the American Statistical Association, the meetings of the Biometric Society (ENAR and WNAR), and the Econometric Society.

Memorial sessions for S. S. Wilks, S. N. Roy, and R. A. Fisher were organized for these meetings in cooperation with the ASA and the Biometric Society.

Approximately 1200 people attended the various sessions organized or sponsored by the IMS.

PROGRAM

Sunday, December 27, 1964

8:00 p.m.—10:00 p.m.—Memorial Session for S. S. Wilks (Joint Session with the American Statistical Association, and the Biometric Society)

Chairman: F. MOSTELLER, Harvard University

Speaker: T. W. ANDERSON, Columbia University

Monday, December 28, 1964

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

Chairman: P. R. KRISHNAIAH, Aerospace Research Laboratories

1. *Minimal Augmentation of Orthogonal Main-effect Plans to Remove Bias from Two Factor Interactions*, C. DANIEL, New York.
2. *Difference Sets, Orthogonal Mappings and Orthogonal Latin Squares*, I. M. CHAKRAVARTI, University of North Carolina.
3. *Efficiency Comparisons of Certain Multivariate Analysis of Variance Test Procedures*, R. GNANADESIKAN, E. LAUH, M. SNYDER, and Y. YAO, Bell Telephone Laboratories and University of Chicago.
4. *Alternative Estimators in p.p.s. Sampling for Several Characteristics*, J. N. K. RAO, Graduate Research Center of the Southwest.
5. *Comparing Distances Between Multivariate Normal Populations*, M. S. SRIVASTAVA, University of Toronto.
6. *On a Partial Differential Equation of Epidemic Theory*, J. GANI, Michigan State University.

8:00 a.m.—10:00 a.m.—Contributed Papers II

Chairman: M. DWASS, Northwestern University

1. *Optimal Selection Based on Relative Rank (The "Secretary Problem")*, Y. S. CHOW, S. M. SAMUELS, Purdue University, S. MORIGUTI, University of Tokyo, and H. ROBBINS, Columbia University.
2. *Some Potential Theoretic Concepts for Non-Markovian Chains*, D. A. DAWSON, McGill University.
3. *Multiple Target Bombing Problems*, D. C. GILLILAND, Michigan State University.
4. *A Partition of Fibonacci Numbers and a Related Two-coin Tossing Game*, S. G. MOHANTY, McMaster University.
5. *An Extension of Lindley's Theorem to the Single Server Queue with Semi-Markovian Input and Service Time Process*, M. F. NEUTS, and M. N. TATA, Purdue University.

10:30 a.m.—12:20 p.m.—Order Statistics (Joint Session with Biometrics Section and Section on Physical and Engineering Sciences, A.S.A., Biometric Society, ENAR-WNAR)

Chairman: H. C. FRYER, Kansas State University

1. *The Wilcoxon, Ties and the Computer*, J. KLOTZ, Harvard University.
2. *A k-sample Model in Order Statistics*, W. J. CONNOVER, Kansas State University.
3. *A Modified Two-Sample Sequential Rank Test with Some Monte Carlo Results*, R. BRADLEY, Florida State University.

Discussants: H. A. DAVID, University of North Carolina,
 W. A. THOMPSON, JR., Florida State University,
 L. F. MARCUS, Kansas State University

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

Chairman: W. H. KRUSKAL, University of Chicago

1. *On the Operating Characteristics of a Multiple Decision Procedure*, S. S. GUPTA and M. N. WAKNIS, Purdue University.
2. *Monotonicity Property of the Generalized SPRT*, (Preliminary Report), K. SEO and D. R. BARR, Colorado State University.
3. *Solution of the Compound Decision Problem with $m \times n$ Finite Loss Matrix*, J. R. VAN RYZIN, Argonne National Laboratory.

2:00 p.m.—3:50 p.m.—Bayesian Methods in Research (Joint Session with Biometric Society, ENAR-WNAR, Biometrics Section, ASA.)

Chairman: M. SCHNEIDERMAN, National Cancer Institute

1. *Bayesian Indifference Procedures*, M. R. NOVICK, Educational Testing Service and W. J. HALL, University of North Carolina.
2. *The Assumptions Underlying a Cost Function Approach to Determine the Size of a Clinical Trial*, T. W. COLTON, Harvard University.

2:00 p.m.—3:50 p.m.—Contributed Papers IV

Chairman: H. E. MCKEAN, Purdue University

1. *A Multivariate Stochastic Approximation Procedure*, MARY L. EPLING, University of California Medical Center.
2. *A Nonparametric Estimate of a Multivariate Density Function*, D. O. LOFTSGAARDEN and C. P. QUESENBERY, Montana State College.
3. *Use of Range of Control Percentages in Both Tails of a Normal Population*, C. H. KAPADIA, J. N. K. RAO, and D. B. OWEN, Southern Methodist University, and Graduate Research Center of the Southwest.
4. *Confidence Limits for the Reliability of a Series System* (Preliminary Report), A. H. EL MAWAZINY, Iowa State University and R. J. BUEHLER, University of Minnesota.
5. *Non-Linear Predictors Depending on the Last Observation*, H. J. WEINER, Stanford University.

Tuesday, December 29, 1964

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

Chairman: L. J. COTE, Purdue University

1. *Exact Distribution for a Chi-square Test*, S. K. KATTI, Florida State University.
2. *Probability Integrals of the Multivariate F Distribution with Tables for Special Cases*, P. R. KRISHNAIAH and J. V. ARMITAGE, Aerospace Research Laboratories.
3. *Estimation of a Spectral Density by Fitting Moments*, M. J. HINICH, Carnegie Institute of Technology.
4. *On the Asymptotic Theory of Fixed-Width Sequential Confidence Intervals for the Mean*, Y. S. CHOW, Purdue University and H. ROBBINS, Columbia University.

Tuesday, December 29, 1964

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

Chairman: E. CROW, National Bureau of Standards

1. *Robust Estimation of Location*, E. L. CROW and M. M. SIDDIQUI, Boulder Laboratories and Colorado State University.
2. *Some BAN Linear Estimates of the Location and Scale Parameters Based on Censored or Complete Samples*, M. M. ALI and L. K. CHAN, University of Western Ontario.

3. *Minimum Variance Bounds in the Non-Regular Case*, W. R. BLISCHKE, C-E-I-R, Inc.
4. *Maximum Likelihood Estimation Under the Incorrect Family of Densities*, H. PARK, Purdue University.
5. *Maximum Likelihood Estimation in the Weibull Distribution Based on Complete and on Censored Samples*, A. C. COHEN, University of Georgia.
6. *Estimating the Parameters of the Exponential Distribution from a Censored Sample Based on Suitably Chosen Quantiles*, M. M. ALI and A. K. MD. SALEH, University of Western Ontario.

10:30 a.m.—12:20 p.m.—Invited Addresses I

Chairman: H. T. DAVID, Iowa State

1. *A General Proof of Termination with Probability One of Sequential Probability Ratio Tests Based on a Maximal Invariant if the Observations are Multivariate Normal*, R. A. WIJSMAN, University of Illinois.
2. *On the SPRT Based on a Sequence of Random Variables of Some Generality*, A. IFRAM, Northwestern University.

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

Chairman: DOROTHY GILFORD, Office of Naval Research

1. *Characterizations of Some Distributions by Conditional Moments*, W. L. HARKNESS, Pennsylvania State University, and E. M. BOLGER, Bucknell University.
2. *Mixtures of Probability Measures and Regular Conditional Probabilities*, R. H. RODINE, State University of New York at Buffalo.
3. *Moments of Randomly Stopped Sums*, H. TEICHER, Y. S. CHOW, Purdue University, and H. ROBBINS, Columbia University.
4. *Some Non-Markovian Processes Arising in Queuing Theory*, N. U. PRABHU, Michigan State University.

2:00 p.m.—3:50 p.m.—Invited Addresses II

Chairman: I. W. KABAK, Bell Telephone Labs

1. *Statistical Terminology, English vs. Russian*, S. KOTZ, University of Toronto.
2. *Design of Classification Experiments*, R. M. ELASHOFF, University of California, Berkeley.

2:00 p.m.—3:50 p.m.—Contributed Papers VIII

Chairman: R. R. BAHADUR, University of Chicago

1. *An Extension of Chernoff's Theorem with Applications to Stochastic Comparison to Tests (Preliminary Report)*, INNIS ABRAHAMSON, University of Chicago.
2. *A Nonparametric Test for the Several Sample Location Problem*, V. P. BHAPKAR, University of North Carolina and University of Poona.
3. *Locally Most Powerful Rank Tests for Censored Data*, J. L. GASTWIRTH, Johns Hopkins University.
4. *An Alternative Efficiency for the One Sample Wilcoxon (Preliminary Report)*, J. H. KLOTZ, Harvard University.
5. *Locally Unbiased Type M Test*, M. KRISHNAN, State University of New York at Buffalo.

4:00 p.m.—5:50 p.m.—General Session II: R. A. Fisher, Memorial Lecture (Joint Session with the American Statistical Association, and the Biometric Society)

Chairman: W. H. KRUSKAL, University of Chicago

Speaker: R. A. FISHER and the Last Fifty Years of Statistical Methodology, M. S. BARTLETT, University College, London

Discussants: H. HOTELLING and F. J. ANSCOMBE

Wednesday, December 30, 1964

10:30 a.m.–12:20 p.m.—Memorial Session for S. N. ROY (Joint Session with the American Statistical Association, and Biometric Society, ENAR-WNAR)

Chairman: H. HOTELLING, University of North Carolina

1. *Life and Early Work of Professor S. N. Roy*, R. C. BOSE, University of North Carolina.
2. *S. N. Roy's Interests in and Contributions to the Analysis and Design of Certain Quantitative Multiresponse Experiments*, R. GNANADESIKAN, Bell Telephone Laboratories.

Contributed Papers by Title

1. *Tables for the Distribution of the Maximum of Correlated Chi-Square Variates with One Degree of Freedom*, P. R. KRISHNAIAH and J. V. ARMITAGE, Aerospace Research Laboratories.
2. *On the Median Test for the c -Sample and p -Variate Nonparametric Location Problem*, P. K. SEN, University of California.
3. *A Characterization of Pareto's Distribution and $(k+1)x^k/\theta^{k+1}$* , M. S. SRIVASTAVA, University of Toronto.
4. *On a Multivariate Slippage Problem*, M. S. SRIVASTAVA, University of Toronto.
5. *Tables for the V_{NM} Two-Sample Test*, M. A. STEPHENS, McGill University.
6. *On the Nonexistence of PBIBD with the Parameters $v = 28$, $n_1 = 12$, $n_2 = 15$, $p_{11}^2 = 4$, $b < v$* , ESTHER SEIDEN, Michigan State University.