

SYMPOSIUM ON INEQUALITIES IN STATISTICS AND PROBABILITY

October 27–30, 1982

The University of Nebraska-Lincoln
Lincoln, Nebraska

Sponsored by
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The University of Nebraska-Lincoln



PROGRAM

(Revised October 1982)

WEDNESDAY, OCTOBER 27

- 7:30–
10:00 a.m. *Registration:* Second floor registration desk,
Nebraska Center
Late Registration: Second floor registration
desk, Nebraska Center
- 8:35 a.m. *Welcome, Martin A. Massengale*, Chan-
cellor, and *Earl J. Freise*, Assistant Vice
Chancellor for Research, University of
Nebraska-Lincoln
- 8:50–
10:20 a.m. *A. Matrix Related Inequalities*
Chairman: *C.R. Rao*, University of
Pittsburgh
- 8:50 A-1. Eigenvalue Inequalities for Random
Evolutions, *Joel E. Cohen*, the Rockefeller
University
- 9:35 A-2. Some Matrix Inequalities and Applica-
tions, *Marshall Freimer* and *Govind S.*
*Mudholkar**, University of Rochester
- 10:20 a.m. COFFEE
- 10:40–
12:10 p.m. *B. Multivariate Majorization and Dilations*
Chairman: *Frank Proschan*, Florida State
University
- 10:40 B-1. A Review of Multivariate Majorization,
Samuel Karlin, Stanford University, and
*Yosef Rinott**, Stanford University and the
Hebrew University of Jerusalem
- 11:25 B-2. On Approximate Dilations with
Applications to Statistics, *J.H.B.*
Kemperman, University of Rochester
- 12:10 p.m. GROUP LUNCH, The Nebraska Room
- 1:40–
3:10 p.m. *C. Stochastic Optimization and Rearrange-
ment Inequalities*
Chairman: *F.T. Wright*, University of
Missouri-Rolla
- 1:40 C-1. Approximations and Error Bounds in
Stochastic Optimization, *Roger J.B. Wets*,
University of Kentucky and International
Institute for Applied Systems Analysis

- 2:25 C-2. Stochastic Versions of Rearrangement Inequalities, with Applications to Statistics, **Catherine A. D'Abadie***, Western Electric, and **Frank Proschan**, Florida State University
- 3:10 p.m. COFFEE
- 3:30–5:00 p.m. D. *Probabilities of Geometric Regions*
Chairman: **D.R. Jensen**, Virginia Polytechnic Institute and State University
- 3:30 D-1. Ordering of Polyhedral Scheffé Regions with Respect to Spherically Symmetric Distributions: A Group-Theoretic Approach, **R. Bohrer**, University of Illinois, Urbana-Champaign, and **Henry P. Wynn***, Imperial College
- 4:15 D-2. Slepian Regions, **S.W. Dharmadhikari**, Southern Illinois University, and **Kumar Joag-Dev***, University of Illinois, Urbana-Champaign and Old Dominion University
- 8:00 p.m. INFORMAL PARTY, The Nebraska Room
- THURSDAY, OCTOBER 28**
- 8:40–10:10 a.m. E. *Moment and Markov Inequalities*
Chairman: **J.H.B. Kemperman**, University of Rochester
- 8:40 E-1. Moment Inequalities with Applications to Regression and Time Series Models, **T.L. Lai***, Columbia University, and **C.Z. Wei**, University of Maryland
- 9:25 E-2. Extensions of Markov Inequality, **Albert W. Marshall**, University of British Columbia
- 10:10 a.m. COFFEE and GROUP PICTURE
- 10:40–12:10 p.m. F. *Perspectives on Inequalities and Entropy Functions*
Chairman: **Michael D. Perlman**, University of Washington
- 10:40 F-1. Inequalities—Some Perspectives, **Ingram Olkin**, Stanford University
- 11:25 F-2. Convexity Properties of Entropy Functions, **C.R. Rao**, University of Pittsburgh
- 12:10 p.m. GROUP LUNCH, The Nebraska Room
- 1:40–3:10 p.m. G. *Association and FKG Inequalities*
Chairman; **Ingram Olkin**, Stanford University
- 1:40 G-1. Using the FKG Inequality for Combinatorial Probability Inequalities, **Lawrence A. Shepp**, Bell Laboratories
- 2:25 G-2. Asymptotic Independence and Limit Theorems for Associated Variables, **Charles M. Newman**, University of Arizona and New York University
- 3:10 p.m. COFFEE
- 3:30–5:00 p.m. H. *Inequalities for Selecting and Ordering Populations*
Chairman: **Milton Sobel**, University of California at Santa Barbara and Columbia University
- 3:30 H-1. On Some Order Relations and Monotonicity Properties with Applications to Selection and Ranking, **Shanti S. Gupta***, Purdue University, **Deng-Yuan Huang**, National Taiwan Normal University, and **S. Panchapakesan**, Southern Illinois University
- 4:15 H-2. Monotonicity in Population Selection: A Unified Approach, **Roger L. Berger***, Florida State University and North Carolina State University, and **Frank Proschan**, Florida State University
- 7:00 p.m. BANQUET, The Nebraska Room
- FRIDAY, OCTOBER 29**
- 7:50–8:50 a.m. I. *Contributed Papers, I*
Chairman: **K.M. Lal Saxena**, University of Nebraska-Lincoln
- 7:50 I-1. A-optimal Design Matrices $X=(x_{ij})_{N \times n}$ with $x_{ij} = -1, 0, 1$, **C.S. Wong** and **Joseph C. Masaro***, University of Windsor
- 8:05 I-2. Isotonic Regression and Recursive Partitioning, **Sue E. Leurgans**, University of Wisconsin-Madison
- 8:20 I-3. Approximating Multivariate Distributions with Dependence Structures, **Joseph Glaz*** and **Bruce McK. Johnson**, University of Connecticut
- 8:35 I-4. Stop Rule and Supremum Expectations of i.i.d. Random Variables: A Complete Comparison, **Robert P. Kertz**, Georgia Institute of Technology

- 8:50– J. *Contributed Papers, II*
9:35 a.m. Chairman: **Daniel P. Mihalko**, University of Nebraska-Lincoln
- 8:50 J-1. Doob's Inequality Revisited, **David C. Cox**, Battelle's Columbus Laboratories
- 9:05 J-2. An Inequality from Convex Geometry, **Richard A. Vitale**, Claremont Graduate School
- 9:20 J-3. Function-Measure Duals via Inequalities, **A.M. Fink**, Iowa State University
- 9:35 a.m. COFFEE
- 9:55– K. *Trends and Order Restrictions*
12:10 p.m. Chairman: **Edward J. Wegman**, Office of Naval Research
- 9:55 K-1. On Measuring the Conformity of a Parameter Set to a Trend, **Tim Robertson***, University of Iowa, and **F.T. Wright**, University of Missouri-Rolla
- 10:40 K-2. Tests for and against Trends among Poisson Intensities, **Rhonda Magel** and **F.T. Wright***, University of Missouri-Rolla
- 11:25 K-3. Dual Convex Cones of Order Restrictions with Applications, **Richard L. Dykstra**, University of Missouri- Columbia and University of Iowa
- 12:10 p.m. GROUP LUNCH, The Nebraska Room
- 1:40– L. *Inequalities in Multivariate Analysis, I*
3:10 p.m. Chairman: **Shanti S. Gupta**, Purdue University
- 1:40 L-1. On Group Induced Orderings and Probability Inequalities, **Morris L. Eaton**, University of Minnesota
- 2:25 L-2. Invariant Ordering and Order Preservation, **D.R. Jensen**, Virginia Polytechnic Institute and State University
- 3:10 p.m. COFFEE
- 3:30– M. *Convex and Stochastic Orderings*
5:00 p.m. Chairman: **Albert W. Marshall**, University of British Columbia
- 3:30 M-1. Convex-Ordering among Functions, with Applications to Reliability and Mathematical Statistics, **Wai Chan**, **Frank Proschan**, and **Jayaram Sethuraman***, Florida State University
- 4:15 M-2. Stochastic Ordering of Spacings from Dependent Random Variables, **Moshe Shaked***, Indiana University and University of Arizona, and **Y.L. Tong**, University of Nebraska-Lincoln
- 6:30 p.m. GROUP DINNER at Peking Garden
- SATURDAY, OCTOBER 30**
- 8:30– N. *Inequalities in Multivariate Analysis, II*
10:45 a.m. Chairman: **Y.L. Tong**, University of Nebraska-Lincoln
- 8:30 N-1. Unbiasedness of Tests for Variances and Covariance Matrices, **Michael D. Pertman**, University of Washington
- 9:15 N-2. On TP_2 and Log-Concavity, **Somesh Das Gupta***, University of Minnesota, and **S.K. Sarkar**, University of Pittsburgh
- 10:00 N-3. Adjusting P-values to Account for Selection over Dichotomies, **Ingram Olkin**, Stanford University, and **Glenn Shafer***, University of Kansas
- 10:45 a.m. COFFEE
- 11:00– O. *Inequalities in Reliability*
12:30 p.m. Chairman: **Moshe Shaked**, Indiana University and University of Arizona
- 11:00 O-1. Inequalities for Coherent Systems, **Henry W. Block***, and **Wagner de Souza Borges**, University of Pittsburgh
- 11:45 O-2. Reliability Inequalities for General Structure Functions, **Henry W. Block** and **Thomas H. Savits***, University of Pittsburgh
- 12:30 p.m. GROUP LUNCH, The Nebraska Room

