

CONFERENCE PROGRAM

Changes will be regularly posted on the *website* and near the entrance to *Luther Bonney Auditorium*.

THURSDAY OCTOBER 2, 2003

Registration Desk

1:00 – 4:00 302 Payson Smith, Math/Stats Department Office

5:00 – 9:00 Double Tree Hotel

FRIDAY, OCTOBER 3, 2003

Registration Desk

7:30 AM Onwards Outside Luther Bonney (LB) Auditorium

The entry to lunches and Friday evening dinner/reception is with Conference Tag only. If you and/or your companion are not registered or have not received a registration waiver, please register so that we do not end up in an embarrassing situation.

Inaugural Session

Luther Bonney Auditorium

Chair: Satya Mishra, University of South Alabama

9:00 Opening Remarks

9:20 Inauguration by Richard Pattenaude, USM President

9:30 – 10:15 Keynote Address: Roger Kirk, Baylor University

Effect Magnitude: A Different Focus

This presentation examines the role of measures of effect magnitude in the research enterprise. Measures of effect magnitude are used for three main purposes: to integrate the results of multiple experiments in meta-analyses, to supplement the information provided by null hypothesis significance tests and confidence intervals, and to determine whether research results are practically significant. Each of these applications as well as a variety of measures of effect magnitude are described. The

advantages of focusing on effect magnitude and practical significance instead of statistical significance and p values are illustrated with examples.

10:15 – 10:35 Coffee Break

10:35 – 12:20 Plenary Session 1
Chair: Dan Zelterman - Yale University
LB Auditorium

1. Pranab Sen (University of North Carolina, Chapel Hill)
Some Nondegradation Processes in Quality Adjusted Survival Analysis
2. Sajal Das (University of Texas, Arlington)
Towards a Universal Model for Personal Mobility Management in Wireless Infrastructure Networks
3. Edward Dudewicz (Syracuse University)
Exact Solutions to the Behrens-Fisher Problem: Asymptotically Optimal and Finite Sample Efficient Choice Among the Solutions due to Chapman, to Prokofyev and Shishkin, and to Dudewicz and Ahmed

12:20 – 1:40 Lunch: Portland Campus Center

1:40 – 2:50 Plenary Session 2
Chair: Pranab Sen - University of North Carolina, Chapel Hill
LB Auditorium

1. Dan Zelterman (Yale University)
Statistical inference for family disease clusters
2. Cyrus Mehta (Cytel Corporation & Harvard University)
Exact Logistic Regression: Theory, Computation and Examples

2:50 – 3:10 Coffee Break

3:10 – 5:10 Parallel Session 1A
Design of Experiments
Chair: M. L. Aggarwal - University of Memphis
LB 410

1. Angela Dean (Ohio State University)
Investigation of k-circulant supersaturated designs
2. Chung-yi Suen (Cleveland State University)
Some Mixed Orthogonal Arrays Obtained By Orthogonal Projection Matrices
3. P.C. Wang (National Central University, Taiwan)
Planning Experiments when Some Specified Interactions are Investigated
4. Derek Bingham (Simon Frazer University)
Bayesian Factor Screening and Response Surface Methodology
5. Sujay Datta (Northern Michigan University)
Grobner bases and their applications in statistics and related fields.

3:10 – 5:10 Parallel Session 1B
Topics in Birth-Death Processes
Chairs: Randall Swift & Michael Green
California State Polytechnic University
LB 402

1. Michael Green (California State Polytechnic University)
An Eigenvalue approach to the Simple Immigration Catastrophe Process
2. Iva Chang (California State Polytechnic University)
Birth - Multiple Catastrophe Processes
3. Di Crescenzo A (Universita di Salerno, Italy)
On the first-visit-time problem for birth and death processes with catastrophes
4. Carrie Mortensen (California State Polytechnic University)
Finite Birth-Death Transient Probability Functions
5. Alan Krinik (California State Polytechnic University)
Birth Death Processes With Catastrophes
6. Flora Mulkey (California State Polytechnic University)
An Allee Birth Death Process
7. Sharyn Ly (California State Polytechnic University)
Birth Death Processes with Polynomial Transition Rate

3:10 – 5:10 Parallel Session 1C

Bioinformatics

Chair: Gary Gadbury - University of Missouri-Rolla

LB 524

1. Gary A. Churchill (The Jackson Laboratory)
Application of mixed model ANOVA in microarray data analysis
2. Gary L. Gadbury (University of Missouri-Rolla)
The distribution of P-values in microarray experiments
3. Paul Schliekelman (University of Georgia)
Microarray Genome Scans for Complex Diseases: Power Under Multilocus Disease Models

Floor discussion

3:10 – 5:10 Parallel Session 1 D

Computational Statistics

Chair: Angelo Canty - McMaster University

LB 303

1. Angelo Canty (McMaster University)
A Robust Bootstrap Test for the Equality of Several Medians
2. John Braun (University of Western Ontario)
Kernel Spline Regression
3. Nitis Mukhopadhyay (University of Connecticut)
On Sequential Determination of the Number of Computer Simulations
4. G. Arthur Mihram (Princeton University)
How Statistical Computation Reveals a Shortcoming or Two in Computer Science
5. Sahai A. (University of Arizona)
Hierarchical Confounding and Scientific Analysis: Statistical Issues for Randomized Controlled Trial Data

3:10 – 5:10 Parallel Session 1E

Health Policy Analysis & Research

Chair: Susan Payne - University of Southern Maine

LB Auditorium

1. David Wennberg (Maine Medical Center)
Is More Better? The relationship between intensity of health care and outcomes in the United States
2. Susan Payne (University of Southern Maine)
Identifying High-Cost Medicaid Beneficiaries with Congestive Heart Failure
3. Ron Russell (Health Dialog Data Service, Maine)
The Relative Accuracy of Log-Linear Models: An Application to Predicting Cardiac Revascularization
4. Jiancheng Huang (Maine Immunization Program, State of Maine)
The Mathematical Model and the Vaccine Policy: Varicella and its Outbreaks in Maine
5. Haiyi Xie (Dartmouth Medical School)
Using Mixed-Effects Mixed Distribution Model to Analyze Repeated Measures Data with Excess Zeros

3:10 – 5:10 Parallel Session 1F

Analysis of High Dimensional Data

Chair: Y Fujikoshi - Hiroshima University

LB 509

1. M. S. Srivastava (University of Toronto)
Classifying High-Dimensional Data into one of several groups
2. Surajit Ray (Pen State University)
Distance based Model Selection for High Dimensional data
3. Jack W. Silverstein (North Carolina State University)
Spectral Properties of Large Dimensional Sample Covariance Matrices
4. Dietrich von Rosen (Swedish University of Agricultural Sciences)
Multivariate linear models with unknown singular covariance matrix

3:10 – 5:10 Parallel Session 1G

Econometrics

**Chair: Sat Gupta - University of Southern Maine
Masterton 305**

1. Chandra Gulati (University of Wollongon, Australia)
Necessary Conditions for a Minimum Profit Level in Pairs Trading: Cointegration-based strategies
2. Yan-Xia Lin (University of Wollongon, Australia)
An Alternative Derivation of the Kalman Filter Using the Quasi-likelihood Method
3. Pratapsinh Chhauhan (Saurashtra University, India)
Role of transaction cost on financial performance of sugar industry of India
4. Jitendra Kumar (University of Allahabad)
Bayesian Unit Root Test in Panel Data Time Series Model

5:15 Buses Leave for Double Tree Hotel for Reception / Dinner

5:15 – 6:15 Cash Bar

6:15 – 8:30 Reception at Double Tree Hotel

**Dr. Ramesh Gupta of University of Maine and
Dr. Frank Graybill of Colorado State University
Will be honored for their contributions to the theory
And practice of statistics**

SATURDAY, OCTOBER 4, 2003

9:00 – 10:15 Plenary Session 3

**Chair: Edward Dudewicz - Syracuse University
Luther Bonney Auditorium**

1. Richard Davis (Colorado State University)
Estimation for Parameter-Driven State-Space Models
2. Jonathan Hosking (IBM)
L – Moments

10:15 - 10:35 Coffee Break

10:35 – 11:45 Plenary Session 4
Chair: Richard Davis - Colorado State University
Luther Bonney Auditorium

1. Sanpei Kageyama (Hiroshima University)
A Unified Terminology in Block Designs
2. J. N. Srivastava (Colorado State University)
On The Nature of Mathematics Arising in the Foundations of Quantum Reality

11:45 – 12:15 Box Lunch in the Coffee Break Area

12:15 – 2:15 Parallel Session 2A
Design of Experiments
Chair: Angela Dean - Ohio State University
LB 410

1. John Stufken (University of Georgia)
Polygonal Designs: An Overview
2. Nizam Uddin (University of Central Florida)
Neighbor properties of some classes of BIBRCs and their efficiencies for correlated errors
3. John Morgan (VirginiaTech)
Designs on the Web
4. Michael Zhu (Purdue University)
Structure Functions for Aliasing Patterns in s^{l-m} Designs and Regular (s^{l-m}, s^r) Blocked Designs and Their Complementary Designs
5. Jane Chang (Bowling Green State University)
Multiple testing in 2^k factorial experiments
6. V.K. Gupta (IASRI, New Delhi, India)
Weighted α -efficient block designs for comparing test treatments with controls with unequal precision

12:15 – 2:15 Parallel Session 2B
Environmental Statistics
Chair: Ernst Linder - University of New Hampshire
LB 402

0. Introduction by the Chair (Ernst Linder, UNH)
1. Tara Frizzell (University of New Hampshire)
Markov Chain Monte Carlo Techniques to Estimate
Long Term Contaminant Leaching in Roadways
2. Jonathan Stroud (University of Pennsylvania)
An Ensemble Kalman Filter for Combining Numerical Models with High-
Dimensional Satellite Data
3. Marc Genton (North Carolina State University)
Predictive spatio-temporal models for spatially sparse environmental data
4. Hira Narang(Tuskegee College)
Wavelet-based solution to some time - dependent two point initial boundary value
problems with non-linear(convective) non-periodic boundary conditions

Floor discussion

12:15 – 2:15 Parallel Session 2C
Non-Parametric Density Estimation and Survival Analysis
Chair: Yogen Chaubey - Concordia University
LB 502

1. Yogendra P. Chaubey (Concordia University)
On a Generalization of a Smooth Estimator of Survival and Density Function
2. R.J. Karunamuni (University of Alberta)
A Locally Adaptive Method of Boundary Correction in Kernel Density
Estimation
3. Deo Kumar Srivastava (St. Jude Children's Research Hospital)
Intramodel Relationships in Random Censoring

4. Radhey S. Singh (University of Guelph)
Nonparametric empirical Bayes tests in positive exponential family

12:15 – 2:15 Parallel Session 2D

Biostatistics

Chair: Pranab Sen - University of North Carolina, Chapel Hill

LB 503

1. Joseph Gardiner (Michigan State University)
Assessing medical costs from a longitudinal model
2. Mayetri Gupta (Harvard University)
Stochastic Models for Discovery of Regulatory Modules in Biological Sequences
3. Mounir Mesbah (University of South Brittany, Vannes, France)
Cramer von-Mises Goodness of fit Test and Latent Distribution Estimation in Rasch model
4. Yanyuan Ma (North Carolina State University)
Linear Mixed Effect Models With Semiparametric Generalized Skew-Elliptical Random Effects
5. Kenneth S. Liu (University of Pittsburgh)
Covariate Measurement Error in a Cox Model Analysis of Depression Recurrence

12:15 – 2:15 Parallel Session 2E

Bioinformatics

Chair: Hari Iyer - Colorado State University

LB 403

1. Annette Molinaro (University of California, Berkeley)
Prediction of Survival
2. Elizabeth S. Allman (University of Southern Maine)
Algebraic techniques for phylogeny reconstruction from DNA sequence data.
3. John A. Rhodes (Bates College, Maine)
Quartets and parameter recovery for Markov models of sequence evolution
4. Mark Carpenter (Auburn University)

Floor discussion

12:15 – 2:15 Parallel Session 2F
Coding and Information Theory
Chair: B. K. Dass - University of Delhi
LB 509

1. Michele Elia (Politecnico di Torino, Italy)
Decoding Quadratic Residue Codes via their Embedding in Cyclic Codes over Cyclotomic Fields
2. Bhu Dev Sharma (Clark Atlanta University)
Partitioned Kronecker Product of Matrices and Construction of a New Class of Codes
3. Prasanna Sahoo (University of Louisville)
Image Segmentation Using Two-Dimensional Entropy of Order Alpha
4. Rosanna Iembo (University of Calabria, Italy)
(1, 2) optimal codes over $GF(5)$
5. Inder Jeet Taneja (Universidade Federal de Santa Catarina, Brazil)
Generalized Arithmetic and Geometric Mean Divergence Measures and Their Statistical Aspects
6. Ram Pal Singh (Lajpat Rai College, Sahibabad, Ghaziabad, India)
Parametric r-norm information measure
7. Pranav Dass (Guru Tegh Bahadur Institute of Technology, Indraprastha University, Delhi)
Difference Equations and Rao- Hamming Bound

12:15 – 2:15 Parallel Session 2G
Analysis of High Dimensional Data
Chair: Y Fujikoshi (Hiroshima University)

LB 510

1. Hirokazu Yanagihara (Tsukuba University, Japan)
Selection of Variables in Nonnormal Multivariate Linear Regression Models
2. Jian-Feng Yao (IRMAR, Universite de Rennes, France)
Probabilistic motion models for analysis of video sequences
3. Ruben Zamar (University of British Columbia)
Robust Estimation of Location and Scatter for Large Robust Estimation of Location and Scatter for Large High-Dimensional Data Sets
4. Y. Fujikoshi (Hiroshima University, Japan)
Asymptotic Results for Multiple Discriminant Procedures When the Dimension is Large Compared to the Sample Size

12:15 – 2:15 Parallel Session 2H **Statistical Applications in Psychological Research** **Chair: Bill Thornton - University of Southern Maine** **LB 523**

1. Michael A. Robbins (University of Maine)
Modeling longitudinal change in cognitive functioning
2. Jason K. Maurice (Brandeis University)
Attitudes toward the body and health behaviors
3. Jennifer Howard (University of Southern Maine)
Prototype perception, risk perception, and risk-taking behavior among scuba divers
4. Danielle M. LeBlanc (Brandeis University)
Predictors of behavioral and psychological functioning and improvement patterns in sexually abused children: The role of the criminal justice system
5. Luanne Carl (University of Southern Maine)
Social loafing and the theory of mind: Diminished individual effort in a group as a developmental function of the ability to reason about others' beliefs and intentions
6. Susan Langdon (University of Southern Maine)
Conceptualizing respect: Using protocol methodology to bridge the gap between qualitative and quantitative data

7. Michael J. Cleveland (Iowa State University)

A model-based approach to comparing imputation techniques for incomplete panel data

8. Javid Shabbir (Quaid-I-Azam University, Pakistan)

Randomized response techniques and stratified sampling designs: Methods for dealing with social desirability and gender response bias

2:25 : Buses Leave for the Portland Harbor Cruise

YOU MUST HAVE A TICKET PURCHASED (\$ 45 PER PERSON) FROM THE REGISTRATION DESK BY NOON ON OCTOBER 3 IN ORDER TO BE ABLE TO GO ON THE CRUISE

3:00 – 6:00 Portland Harbor Cruise and Dinner

There may be small wait to get a ride back to your hotel. If you can't wait or if you want to walk around in the old port area after the cruise, please take your own car to the Casco Bay ferry terminal parking garage, or take a cab back.

7:00 Forum Meeting (Members only)
Payson 301

SUNDAY, OCTOBER 5, 2003

9:00 – 10:45 Plenary Session 5
Chair: Bhu Dev Sharma - Clark Atlanta University
Luther Bonney Auditorium

1. Ramesh Gupta (University of Maine)
Residual life function and some characterization results

2. Arlene Ash (Boston University)
Identifying Future High Cost Users of Medical Care

3. Y. Sato (Hokkaido University, Japan)
Multidimensional Scaling for Asymmetric dissimilarity using Randers Metric

10:45 – 11:00 Coffee Break

11:00 – 1:00 Parallel Session 3A
Design of Experiments
Chair: Dan Voss - Wright State University
LB 410

1. Jason Hsu (Ohio State University)
Multiple Comparisons of Gene Expressions from Microarray Data
2. Sudhir Gupta (University of Northern Illinois)
Test Versus Control Comparisons in Diallel Crosses
3. Boxin Tang (University of Memphis)
A General Theory of Minimum Aberration and Its Applications
4. William Li (University of Minnesota)
Efficient Model-Discriminating Designs
5. Nutan Mishra (University of South Alabama)
Construction of circular block neighbour designs

11:00 – 1:00 Parallel Session 3B
GIS and Geographical Based Research and Analysis
Chair: David Harris - Lewiston Auburn College
Mathew Bampton – University of Southern Maine
LB 503

1. David Harris (Lewiston – Auburn College, University of Southern Maine)
GIS-based Analysis of Harp and Hooded Seal Sighting Locations On Shore In The Southern Gulf of Maine
2. Rosemary Mosher (University of Southern Maine)
RMS Calculations in the Comparison and Analysis of Historical Maps

3. Mark Ontkush (Woodard & Curran)
Using Geographic Information Systems to improve logical blocking for probabilistic record linkage algorithms.

11:00 – 1:00 Parallel Session 3C
Reliability and Life Testing
Chair: Pushpa Gupta - University of Maine
LB 402

1. Rameshwar D. Gupta (University of New Brunswick, Saint John, Canada)
Generalized Exponential Distributions
2. Renjun Ma (University of New Brunswick, Fredericton, Canada)
Spatial Cox Models: A Poisson Modelling Approach
3. Ram C. Tripathi (University of Texas, San Antonio)
Score Test for Zero Adjusted Generalized Poisson Regression Model
4. K. Muralidharan (Bhavnagar University, Bhavnagar, India)
Analysis of Instantaneous and Early Failures in Weibull
5. G. C. Bhimani (Saurashtra University)
Estimation of confidence bands using non-parametric test for the survival curve obtained in the Thalassaemia (Major) clinical trial
6. Strepnek Grant (Armstrong EP, Malone DC)
Using Logarithmic Transformation in Biomedical Research: Efficient Estimation of the Lognormal Mean

11:00 – 1:00 Parallel Session 3D
Sample Surveys
Chair: Javid Shabbir - Quaid –I-Azam University, Pakistan
LB 403

1. Javid Shabbir (Quaid –I-Azam University, Pakistan)
On the Use of Transformed Auxiliary Variables in Estimating Population Mean by Using Two Auxiliary Variables
2. Ashok Sahai (University of Swaziland)

Estimation of Finite Population Mean using Auxiliary Variables' Information

3. Sheela Misra (Lucknow University, Lucknow, India)

A class of almost unbiased estimators under systematic sampling scheme

4. K. C. Goyal (CCS Haryana Agricultural University, Hissar, India)

Modified Product Type Estimators For Mean In Skewed Populations

5. Manju Saxena (Jai Narain Vyas University Jodhpur, India)

A Note on pi-PS Sampling Scheme

11:00 – 1:00 Parallel Session 3E

Information Theory

Chair: Bhu Dev Sharma - Clark Atlanta University

LB 502

1. Purushottam Jha (Government D. K. P. G. College, Raipur, India)

On Monotonicity of Measures of Entropy and their Directed Divergence and Useful Information

2. Dr. Anant Ram (Govt. Sr. Secondary School, Ladwa Kurukshetra (Haryana) India)

On a Generalized R-Norm Entropy

3. Dr. Anju Rani (R.R.Collage, Alwar, Rajasthan, India)

Minimum Entropy Probability Distribution

4. Dr. S.K.Verma (Govt. Autonomous Sc. College, Bilaspur(C.G.),India)

Monotocity of mean code word length

11:00 – 1:00 Parallel Session 3F

Operations Research / Approximation Theory

Chair: Kum Kum Dewan - Jamia Millia Islamia University, India

LB 509

1. K.K.Dewan (Jamia Millia Islamia, New Delhi,INDIA)

Growth of polynomials

2. Ratnesh Rajan Saxena (University of Delhi)

Enumeration Technique for Set Covering Problems: A Combinatorial Approach

3. P.L.Sethi (J. N. V. University, Jodhpur,INDIA)
Landline to GSM Mobile Phone SMS in view of Cryptography
4. B.S. Bhaduria (Jai Narain Vyas University Jodhpur, India)
Thermal Instability in Rayleigh-Benard Configuration
5. Punita Saxena (University of Delhi)
Data Envelopment Analysis: An Application in the Transport Sector
6. ShriDeo Sharma (Meerut College,Meerut,India)
A linear goal programming model for academic resource allocation

1:00 – 2:15 Lunch

2:15 – 4:15 Parallel Session 4A

Design of Experiments

Chair: William Li - University of Minnesota

LB 410

1. Bruce Ankenman (Northwestern University)
Modeling the Mean and Variance of Product Cycle Time using a Discrete-Event Simulation Model of a Manufacturing Facility
2. M.L. Aggarwal (University of Memphis)
Optimal fractional factorial plans using minihypers
3. Steve Gilmour (University of London)
Fractional polynomial response surfaces
4. Rajender Parsad (IASRI, India)
Designs for Cropping Systems Research
5. Dan Voss (Wright Sate University)
On adaptive estimation in orthogonal saturated designs

2:15 – 4:15 Parallel Session 4B

Operations Research/Approximation Theory

**Chair: Kum Kum Dewan - Jamia Millia Islamia University, India
LB 509**

1. Anil Kumar Dalela (Jabalpur, India)
On degree of approximation of functions in the holder metric (a new approach)
2. Sameer Kumar Shukla (Govt. P.G.College Narsinghpur,India)
Common Fixed Point Theorem of Continuous Mapping
3. Archana Khurana (University of Delhi)
The sum of a linear and linear fractional transportation problem with restricted and enhanced flow
4. N. K Choubey (Govt. Science College , Jabalpur, India)
Application of Gegenbauer Polynomials and Mathieu Function to a Nonlinear Dynamical System
5. Iqbal Ahmad (Jamia Millia Islamia University, India)
On the location of Zeros of a Polynomial

2:15 – 4:15 Parallel Session 4C

Math Education

**Chair: Dick Stebbins - University of Southern Maine
LB 503**

1. Dick Stebbins (University of Southern Maine)
Opening Remarks
2. Eva J. Szillery (MMSETS Program Director)
The connection between a problem solving program and interest in Singapore Mathematics
3. Josephine M. LaPlante (University of Southern Maine)
Engaging Reluctant Public Service Students in the Learning and Real World Application of Introductory Statistics
4. Diane Fisher (Louisiana State University at Eunice)
Using Research Papers as a Tool in Teaching Introductory Statistics
5. Nellie Carrier (University of Southern Maine)

Predictors of Success and Failure in Basic Mathematics Courses: A Quantitative Analysis

2:15 – 4:15 Parallel Session 4D
Mixtures and Near-exact distributions
Chair: Rameshwar D. Gupta – University of New Brunswick
LB 510

1. Carlos A. Coelho (Institute of Agriculture Technology, Lisbon, Portugal)
On the mutual characterization of discrete and continuous 'waiting times'

2. Luís Miguel Grilo (Polytechnic Institute of Tomar, Portugal)
Development and Comparative Study of two Near-exact Approximations to the Distribution of the Product of an Odd Number of Independent Beta Random Variables

3. Rui Pesado Alberto (Bela Vista High School - Setubal – Portugal)
Study of the Quality of Several Asymptotic and Near-Exact Approximations Based on Moments for the Distribution of the Wilks Lambda and Related Statistics

4. Carlos A. Coelho (Institute of Agriculture Technology, Lisbon, Portugal)
A mixture of Generalized Integer Gamma distributions as the exact distribution of the product of an odd number of independent Beta random variables with first parameter evolving by $1/2$. Applications.

5. Ram Tiwari (University of Jammu, India)
Stein-Generalized Least Squares Estimators in Misspecified Linear Regression Models

6. Manoj Tiwari (University of Arkansas, Fayetteville)
Pitman Nearness and Concentration Probability Comparison of the sample Coefficient of Determination and its Adjusted Version in Linear Regression

4:15 – 4:35 Coffee Break

4:35 Closing Remarks