

**International Indian Statistical Association (IISA)**  
**Joint Statistical Meeting and International Conference**  
**on**  
**Statistics, Probability and Related Areas**

**January 2-5, 2007**

**Hotel Renaissance, Cochin, India**

## WELCOME

The Local and International Organizing Committees of the International Conference IISA would like to extend a warm welcome to all participants.

The objective of this conference is to assess recent developments in the fields of Statistics and Probability and to discuss future directions in terms of theory, practice and education. One of the primary goals is to foster international collaboration in these and related areas through the exchange of ideas and experiences and to enhance other technology transfer activities. Reforms needed in statistical education and training in order to meet the changing needs of the industry and government will receive special attention. The program of the conference will include several plenary talks, special invited sessions and invited sessions as well as a workshop. English is the official language for all conference materials and presentations.

The conference is hosted by the Department of Statistics, Cochin University of Science and Technology and sponsored by Bayesian Society Of India, Calcutta Statistical Association, Forum For Interdisciplinary Mathematics, Indian Agricultural Statistics Research Institute, Indian Association For Productivity, Quality And Reliability, Indian Society For Agricultural Statistics, Indian Society For Probability And Statistics, Indian Statistical Association, Indian Statistical Institute, Institute Of Mathematical Statistics, International Society For Business And Industrial Statistics and National Institute Of Medical Statistics.

The conference will be held at **Hotel Renaissance** in **Cochin**.

### Topics:

The Conference will feature topics including

- **Applied Probability, Random Walks**
- **Bayes Inference**
- **Bio-statistics and Bio-informatics**
- **Data Mining**
- **Design of Experiments**
- **Directional Data Analysis**
- **Distribution Theory**
- **Econometrics**
- **Markov Processes and Markov Decision Theory**
- **Mathematical Finance**
- **Multivariate Analysis**
- **Nonparametric Inference**
- **Operations Research, Queues and Inventories**
- **Probability Theory, Limit Theorems**
- **Statistical Education**
- **Statistical Quality Control and Reliability**
- **Stochastic Processes, Stochastic Calculus and Control**
- **Survey Sampling**
- **Survival Analysis**
- **Time Series Analysis**

## **Workshop:**

On January 6, 2007, at the end of the conference, there will be a half-day workshop on Mathematical Finance, conducted by Professor S.T.Rachev, and Dr. Sebastian Kring. This workshop will introduce new researchers to the field and will bring them up-to-date on current research in the area. Separate registration is needed for the workshop.

## **Special Session:**

A special session will be organized to honour Prof.N.Unnikrishnan Nair, who is the founder professor of the Department of Statistics, Cochin University of Science and Technology. His areas of interest include Distribution Theory, Statistical Inference, Reliability Analysis and Demography. He has more than 100 publications in international journals in addition to 5 books. He is the editor of the journal 'Statistical Methods' published from the Department of Statistics, Cochin University of Science and Technology, where he retired as the Vice Chancellor in 2004.

The Conference Committees have put together an excellent programme which features some outstanding researchers and practitioners from around the world.

We hope that you will enjoy the conference and that your stay in Cochin will be pleasant.

## **COMMITTEES**

### **International Organizing Committee**

Chair	:	J.K. Ghosh (India)
Members	:	Bovas Abraham (Canada) Barry Arnold (USA) N.Balakrishnan (Canada) Mousumi Banerjee (USA) N. Rao Chaganty (USA) Dipak Dey (USA) Paramjit Gill (Canada) Hira L. Koul (USA) H.N. Nagaraja (USA) N. Unnikrishnan Nair (India) Ashis SenGupta (India) Kirti Shah (Canada) Winfried Stute (Germany)

### **Local Organizing Committee**

Patron	:	P.K.Abdul Aziz
Chair	:	K.R.Muraleedharan Nair
Co-ordinator	:	P.G.Sankaran
Members	:	N.Balakrishna Asha Gopalakrishnan K.C.James M.Manoharan V.K.Ramachandran Nair

S.M.Sunoj  
R.P.Suresh  
P.Yageen Thomas

**Programme Committee:**

S. Rao Jammalamadaka (USA) (Chair)  
P.G.Sankaran (India) (Co-Chair)  
N.Balakrishna (India)  
Probal Chaudhary (India)  
Anirban Dasgupta (USA)  
J.V.Deshpande (India)  
A.Krishnamoorthy(India)  
S.N. Lahiri (USA)  
Sri Gopal Mohanty(Canada)  
K. Mukherjee (UK)  
K.R.Muraleedhran Nair(India)  
U.V. Naik-Nimbalkar (India)  
S.T.Rachev (Germany)  
T.N. Sriram (USA)  
Kishor S. Trivedi(USA)

**GENERAL INFORMATION**

- DATES** : Conference – Tuesday, Jan 2 – Sunday, Jan 6, 2007
- VENUE** : Hotel Renaissance, Cochin, India  
Telephone: 91-484-2344463
- HOSTED BY** : Department of Statistics, Cochin University of Science and Technology
- SPONSORED BY** : Bayesian Society of India  
Calcutta Statistical Association  
Forum for Interdisciplinary Mathematics  
Indian Agricultural Statistics Research Institute  
Indian Association for Productivity, Quality and Reliability  
Indian Society for Agricultural Statistics  
Indian Society for Probability and Statistics  
Indian Statistical Association  
Indian Statistical Institute  
Institute of Mathematical Statistics  
International Society for Business and Industrial Statistics  
National Institute of Medical Statistics
- SUPPORTED BY** : University Grants Commission, New Delhi  
National Board of Higher Mathematics, Chennai  
Crane Software Pvt. Limited, Bangalore
- LANGUAGE** : The official language of the conference is English.
- COORDINATOR** : Dr. P.G.Sankaran (Coordinator)  
Department of Statistics

Cochin University of Science and Technology  
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## CONFERENCE INFORMATION

### **Cochin**

Cochin, popularly referred to as the Queen of the Arabian Sea, is regarded as the commercial and industrial capital of Kerala. Kerala is perhaps the greenest place you will ever see. The coconut palms, the red tiled houses, innumerable lakes and beaches are rare sights and will leave long lasting impressions on any visitor. Kerala, referred to as the 'God's Own Country' is one of very attractive tourist places in Asia.

### **How to Reach Cochin**

Kochi is well connected by air, rail, road and waterways to all major cities within and outside Kerala. We shall arrange for your transportation from Railway Station/Airport to Hotel/University Guest House provided that you inform your travel plans in advance.

### **By Air**

Cochin International Airport is situated about 38 km from Cochin City Center. Regular direct flights are operated from here to many international destinations. Various domestic airlines connect Cochin with all the major cities in India. **Hotel Renaissance**, where the conference is conducted, is situated on the side of main road to Cochin city from the international airport. Pre-paid taxis are available at the airport. While getting into the taxi, you may mention the destination of journey as **Hotel Renaissance, Palarivattam**. Approximate taxi fare is 400 Indian Rupees (approximately Rs.46 to \$1US at this time). The distance from airport to University Guest House is 25 k.m. and approximate taxi fare is Rs.300.

### **By Rail**

Cochin is connected with the rest of India by an extensive network of rails. There are three important railway stations in Cochin namely Alwaye, Ernakulam Junction and Ernakulam Town. Many important trains start from here and many others pass through these stations. The venue for the conference, **Hotel Renaissance, Palarivattam** is located on the side of Ernakulam- Alwaye main road. Taxis are available in all the above railway station premises. Approximate taxi fare from Ernakulam Junction is 200 Indian Rupees.

### **By Road**

Three important National Highways (NH) pass through/start from Cochin. The NH 47 from Kanyakumari to Salem passes right through the heart of Cochin while NH 17 to Mumbai and NH 49 to Madurai (in Tamil Nadu) starts from Cochin. Private and public transport services are available to/from all major cities of South India from here.

## **REGISTRATION**

The registration of delegates is scheduled at **8.30 am on 02-01-2007** at the venue. However, we are arranging to have registration at your place of stay in the evening of first January 2007.

### **Accommodation**

Hotel accommodation is arranged at Hotel Renaissance, Hotel Taj Residency, Hotel Abad Plaza, Hotel Abad Atrium, Alapatt Regency, Bharat Tourist Home, University Guest House, Adhithi Bhavan (Cochin University), Ashir Bhavan.

There are only 50 rooms for accommodation in the University Guest House/Adhithi Bhavan, those are not air conditioned. The participants who need accommodation in the Guest House will be charged Rs.150 per day.

You may kindly proceed to your place of accommodation on your arrival at Cochin. We shall arrange for your transportation from Railway Station/Airport provided that you inform your travel plans in advance.

We arranged accommodation for the delegates in following hotels at discounted rates for the conference.

#### **Hotel Renaissance ( 91-484-2344463)**

Superior Room (Single)	Rs.2200 + Tax
Superior Room (Double)	Rs.2500 + Tax
Suite Room	Rs.2800 + Tax

#### **Hotel Taj Residency (91-484-2371233)**

Standard Room (Single)	Rs.5350 + Taxes
Standard Room (Double)	Rs.5850 + Taxes
Sea View Room (Single)	Rs.5750 + Taxes
Sea View Room (Double)	Rs.6250 + Taxes
Executive Room (Single)	Rs.6250 + Taxes
Executive Room (Double)	Rs.6750 + Taxes

#### **Hotel Abad Plaza (91-484-2381122)**

Deluxe Room (Single)	Rs.1800 + Tax
Deluxe Room (Double)	Rs.2100 + Tax
Executive Room (Single)	Rs.2400 + Tax
Executive Room (Double)	Rs.2700 + Tax

#### **Hotel Abad Atrium (91-484-2381122)**

Executive Rooms (Single)	Rs.3000 + Tax
Executive Rooms (Double)	Rs.3500 + Tax

#### **Bharat Tourist Home (Pure Vegetarian) (91-484-2361415)**

Standard room (Single)	Rs.1200 + Tax
Standard rooms(Double)	Rs.1500 + Tax
Suite Rooms	Rs.1900 + Tax

We have also arranged sharing accommodations in the following places.

### University Guest House

Double room                      Rs.200

### Adhithi Bhavan (Cochin University)

Double room                      Rs.150

### Ashir Bhavan, Cochin

Double room                      Rs.200

Transportation from these places to the Conference venue is arranged.

### **Other Hotels**

There are various other good Hotels in and around Cochin City. Information regarding the room availability, tariffs, online booking etc. for these Hotels can be done through the link below.

<http://www.hotelskerala.com/cochin.htm>

### **MEALS**

Registered participants are entitled to the lunches and refreshments at breaks on Jan 2-5 and the banquet on the evening of Jan 3. Accompanying persons are invited for these as well (at special rates). Please let us know if you have accompanying persons.

### **SOCIAL PROGRAMMES**

Inaugural Function              8.30a.m. – 9.30a.m., Jan 2, 2007  
Conference Banquet              6.30p.m. – 9.00p.m., Jan 3, 2007

### **TRANSPORTATION**

Arrangements will be made to pick the participants up from Cochin airport if the flight details (flight number, arrival time and date) are conveyed to us.

### **TOUR INFORMATION**

We plan to arrange a boat trip through the backwaters of Cochin to view the sunset on 4<sup>th</sup>, January, 2007.

A travel desk will be operating at the conference venue to meet the travel requirements of the participants and their accompanying persons. The details of our official travel agent are given below.

**Mr.K.Balagopal**

**Balu's Travels**

**Edappally, Cochin**

**E-mail: [balustravels@rediffmail.com](mailto:balustravels@rediffmail.com)**

**Phone: 0484-3249654, 3266732 (Off), 09388605687(Mobile)**

### **Contact Numbers( in case of emergency) :**

Dr. P G Sankaran	<b>91-484-2741693 (R)</b> <b>91-484-2575893 (O)</b> <b>91-9847348525 (M)</b>
Dr. K R Muraleedharan Nair	<b>91-9446747632</b>
Dr. N Balakrishna	<b>91-9446605682</b>
Dr. S M Sunoj	<b>91-9446627103</b>
Hotel Renaissance	<b>91-484-2344463</b>
Hotel Abad Plaza/Abad Atrium	<b>91-484-2381122</b>
Hotel Taj Residency	<b>91-484-2371233</b>
Hotel B T H	<b>91-484-2361415</b>
Guest House/Adithi Bhavan	<b>91-484-2577172</b>
Ashir Bhavan	<b>91-484-2390472</b>
Balu's Travels	<b>91-9388605687</b>

### **OTHER USEFUL INFORMATION**

#### **VISAS**

Foreign nationals need a Visa and valid passport with appropriate endorsements to enter India. You may apply (at the nearest Indian Consulate) for a Tourist Visa that requires the minimum documentation. You can also apply for a business visa that may require additional fees and documentation. If you require any additional letters from us please let us know. Please direct inquires to the nearest consulate office; also see <http://www.tourindia.com>

#### **FOREIGN CURRENCY EXCHANGE**

The currency in India is Indian Rupees (indicated by Rs)    \$1U.S. = Rs. 46 approx.

#### **ELETRICITY**

The standard electricity supply is 220 volts AC/50 cycles.

#### **TIME**

Cochin is +5.5 hrs in relation to Greenwich Mean Time and +10.5 hrs in relation to Eastern Standard Time (i.e., Toronto, Canada).

#### **SHOPPING**

Cochin offers a wide variety of shopping opportunities (clothing, handicrafts, jewelry, etc.). A travel desk will be operating at the conference venue to meet the travel requirements of the participants and their accompanying persons.

#### **CLIMATE**

In Kerala, winter starts from December and continues till February. The temperature rises to a maximum of 35°C in the summer and 25°C in the winter. However the mornings and evenings are very pleasant. Light tropical and cotton clothing is advisable. More

information about Cochin, Kerala and India can be obtained from a standard tour books such as “ India: A travel Survival Guide”, “Kerala: A travel Survival Guide”( publishers Lonely Planet) or from the internet: <http://www.kerala.com>

## CONFERENCE SCHEDULE

Jan.2-2007

<b>8.30a.m</b>	-	<b>9.30a.m.</b>	<b>: Registration</b>
<b>9.30a.m</b>	-	<b>10.30a.m.</b>	<b>: Inauguration</b>
<b>10.30a.m</b>	-	<b>10.45a.m.</b>	<b>: Tea</b>
<b>10.45a.m</b>	-	<b>11.25a.m.</b>	<b>: Plenary Session - 1</b>

**Chair: J. K. Ghosh**

- 1. C. R. Rao** : *Statistics: Reflections on the Past and Visions for the Future.*

<b>11.30a.m</b>	-	<b>1.00p.m.</b>	<b>: Session to Honor Prof. N. Unnikrishnan Nair</b>
<b>N. Balakrishnan</b> : <i>Connections of the Poisson Weight Function to Overdispersion and Underdispersion.</i>			

<b>1.00p.m</b>	-	<b>2.00p.m.</b>	<b>: Lunch</b>
<b>2.00p.m</b>	-	<b>3.30p.m.</b>	<b>: Special Invited Sessions (Parallel)</b>

### **1. Recent Development in Pattern Recognition**

**Organizer: Smarajit Bose**

- Amita Pal: A Review of Statistical Approaches to Speaker Recognition.
- Smarajit Bose: Iterative Feature Extraction for Nonlinear Classification
- S Rao Jammalamadaka: Analysis of Microtubule Dynamics.

### **2. Spatio-Temporal Models**

**Organizer: Tata SubbaRao**

- R J Bhansali: Inverse Correlations for Gaussian Random and Measures of Their Linear Deterministics.
- Dag Tjostheim: Non Linear Models for Spatio-Temporal Data.
- Richard E Chandler: Space-Time Modelling Using Independence and Generalized Estimating Equations.

### **3. Environmental Statistics**

**Organizer: Debasis Sengupta**

- A.P. Gore: Measurement of Biodiversity.
- Atanu Biswas: Bayesian Nonlinear Regression for the Air Pollution Effects on Daily Clinic Visits in Small Areas of Taiwan.
- Debasis Sengupta: Tiger Census Based on Pugmarks.

### **4. Case Studies on Biomedical Statistics**

**Organizer: Sanjib Basu**

1. Mousami Banerjee: Survival Trees and Forests for Breast Cancer Prognostication.
2. Ravindra Khattree: An Analysis of World Mental Health Survey with Special Reference to Smoking: Mexico Data.
3. E.S. Venkatraman: Circular Binary Segmentation for the Analysis of Array CGH Data.

### **5. Markov Processes and Inference**

**Organizer: Sri Gopal Mohanty**

1. Sunder Sethuraman: Occupation Laws for Some Markov Time-Reinforcement Schemes.
2. S. Acharya: Asymptotic Inference for Single Server Queues.
3. D. Kannan: Some Asymptotics of Self-Interacting Markov Chains.

**3.30p.m** - **3.45p.m.** : Tea

**3.45p.m** - **5.15p.m.** : Special Invited Sessions (Parallel)

### **1. Bayesian Nonparametrics**

**Organizer: R.V. Ramamoorthi**

1. Jaeyong Lee: Nonparametric Bayesian Analysis of Clustered Survival Data.
2. Lancelot F. James: Using Bayesian Nonparametric Ideas for Non-Bayesian Problems.
3. Sonia Petrone: Hybrid Dirichlet Processes.
4. Sarat C. Das: A Note on the Consistency of Bayes Factors for Testing Point Null Versus Nonparametric Alternatives.

### **2. Directional Statistics**

**Organizer: Ashis Sengupta**

1. Riccardo Gatto and S. Rao Jammalamadaka: The Generalized Von Mises Distribution.
2. Ashis Sengupta: Unified Approaches to Testing Symmetry and Independence in Possibly Asymmetric Distributions for Directional Data.
3. Oja Hannu: Scatter Matrices, Kurtosis and Independent Components.
4. Barry C. Arnold: Univariate and Bivariate Distributions for Axial and/or Directional Data.

### **3. Statistics for Genomics & Proteomics**

**Organizer: Susmita Datta**

1. Jeffrey Morris: A Fast, Automatic and Accurate Method for Detecting and Quantifying Protein Spots in 2-Dimensional Gel Electrophoresis Data.
2. Francoise Seillier-Moisewitsch: Analysis of 2D Gels: A Global Approach.
3. Somnath Datta and Susmita Datta: Predicting Patient Survival from Microarray Data by Accelerated Failure Time Modeling Using Partial Least Squares and LASSO.

### **4. Biostatistics**

**Organizer: H. N. Nagaraja**

1. Takashi Yanagawa: Two by Two Tables in Negative Binomial Sampling.
2. H. J. Vaman: On the Problem of Estimating the Mean Quality Adjusted Lifetime with Missing Covariate Data.
3. Prakash Laud: Subgroup Analysis Using Bayesian Nonparametric Techniques.

**5. Queues-1**  
**Organizer: Kishor Trivedi**

1. A.Krishnamoorthy: Queues with Self- Generation of Priorities- A Review and Future Work.
2. Gautam Choudhury: A Two Phase Batch Arrival Retrieval Queuing System with Bernoulli vacation Schedule.
3. U. C. Gupta: Analyzing Discrete-Time D-BMAP/G/1/N Queue with Single and Multiple Vacations.

Jan.3-2007

**9.00a.m - 10.20a.m. : Plenary Sessions 2 and 3**

2. **R.N.Bhattacharya:** *Incompressible Navier-Stokes Equations: A Probabilistic Approach*
3. **S. R. S. Varadhan:** *Homogenization of Linear and Non-Linear Partial Differential Equations.*

**10.20a.m - 10.40a.m. : Tea**

**10.40a.m - 12.10p.m. : Special Invited Sessions (Parallel)**

**1. Ordered Data Analysis**  
**Organizer: N. Balakrishnan**

1. H N Nagaraja: Order Statistics of Concomitants of Selected Order Statistics.
2. N.R. Arghami: Statistical Evidence in Experiment and in Record Values Based on Renyi Information.
3. H.K. Tony Ng: Selecting The Best Population Using a Test for Equality Based on Precedence-Type Statistics.

**2. Interdisciplinary Applications of Multivariate Methods**  
**Organizer: T. N Sriram**

1. Thomas Mathew: Confidence Rectangles for Multivariate Bioequivalence: A Numerical Approach.
2. Nitis Mukhopadhyay: Some Sequential Multivariate Methods in Experimental Psychology and Cognition.
3. T. N. Sriram: Canonical Covariate Analysis Based on Kullback-Leibler Information and its Application to Morphological Integration Studies.

**3. Multivariate Analysis – A special session dedicated to the memory of**  
**Professor Somesh Dasgupta**

**Organizer: Ashis SenGupta**

**Chair: J. K. Ghosh**

1. S. James Press and Judith M. Tanur: Respondent-Generated Intervals in Sample Surveys.
2. S.P.Mukherjee: On Bivariate Equilibrium Distribution.
3. Govind S Mudholkar: Trimmed and Weighted Norms with Statistical Applications.

**4. Bio- Informatics**  
**Organizer: Sunil Mathur**

1. Sunil Mathur: A Test to Identify Differentially Expressed Genes from Microarray Data.
2. Young K. Troung: Spatio-Temporal Modeling of FMRI Data.
3. N. Rao Chaganty: Ranges of Measures of Associations for Familial Binary Variables.

**5. Queues-2**  
**Organizer: A. Krishnamoorthy**

1. Rein Nobel: A Discrete Time Queuing Model in A Random Environment.
2. Gopalan Nair: Combinatorial Approach to Analysis of M/G/1 Type Queues.
3. Sri Gopal Mohanty: Transient Probability Functions of Batch-Type Queuing Systems.

**12.10a.m - 1.10p.m. : Invited Sessions 1-5(Parallel)**

**I -1: Multivariate Analysis**

1. B. Madana Mohana Babu: Identification of Crucial Factors through Factor Analysis in Different Categories of Heart Patients.
2. Sai Vamshidhar, Nudurupati: Classification Based on Depth Transvariation.
3. Cijo Mathew: Analyzing Major Factors Affecting Final Output Parameters of a Product in an Assembly Line Using Multiple Regressions.
4. Shibasish Dasgupta: Two Approaches to Look at Support Vector Classification and its Application.

**I-2: Time Series 1**

1. P. P. Talwar: Detecting a Shift in Location in a Random Sequence: A Revisit and Applications
2. Jayamol K. V.: On a Class of Lifetime Distribution Using A P.G.F. Ordering.
3. K. Jayakumar: Laplace Distribution on Integers and Related Process.
4. Seetha Lekshmi V.: On Min Geometric Generalized Pareto Processes.

**I-3: Statistical Methodology 1**

1. Babuhai V. Shah: Safal: Statistical Analysis Functions Application Language.
2. V.K. Gopinathan Unnithan: Pooled Analysis of Dependent Sets of Data.
3. Laly John C: Optimum Age for Selection to Improve Annual Egg Production in Two Strains of White Leghorn.
4. Ahad Jamalizadeh Bahaabadi: Distribution of Order Statistics from Bivariate Skew-Normal and Bivariate Skew- T Distributions.

**I-4: Statistical Inference 1**

1. Ajith Chaturvedi: Bayesian Estimation Procedures for a Family of Lifetime Distributions under Squared Error and Entropy Losses.
2. K.M.Suchita Kesarwani: Estimation of the MSE Matrix of Improved Estimators in Linear Regression with Non-Spherical Disturbances.

3. Kavitha Bhat: On the Deficiency of Maximum Likelihood Estimator for Normal Mean with Known Coefficient of Variation.
4. K. Aruna Rao: New Estimators for Normal Mean with Known Coefficient of Variation.

### **I-5 Queues and Inventories 1**

1. S. Sophia: Transient Solutions for State-Dependent Queues with Catastrophes.
2. S.Babu: MAP/PH/PH/1 Queue with Self Generation of Priorities and Non Preemptive Service.
3. V. Goswami: Discrete-Time Bulk-Service Geo/Geo/M Queue
4. G. Vijayalakshmi: Dependability Analysis of the Active/Standby Cluster Systems.

**1.10p.m** - **2.10p.m.** : **Lunch**

**2.10p.m** - **3.40p.m.** : **Special Invited Sessions (Parallel)**

#### **1. Econometrics and Finance**

**Organizer: Hira Koul**

1. Miguel Delgado: A New Class of Pormanteau and Optimal Tests for Time Series Model Specification.
2. Richard T Baillie: Nonlinear Time Series Models With Long Memory:Applications to Real Exchange Rates and Forward Premium
3. Estate Khmaladze: Testing Hypothesis on Errors/Innovations in Non-Parametric Regression.

#### **2. Bayesian Biostatistics**

**Organizer: Bani Mallick and R V Ramamoorthy**

1. Veera Baladandayuthapani: Bayesian Hierarchical Spatially Correlated Functional Data Analysis with Application to Colon Carcinogenesis.
2. Samiran Sinha: Semiparametric Bayesian Analysis of Matched Case-Control Studies with Missing Exposure.
3. Wesley Johnson: A DDP Model for Survival Regression.

#### **3. Survey Sampling**

**Organizer: Raghunath Arnab**

1. P. Lahiri: Small Area Prediction Interval Problems.
2. B. Nandaram: Robust Bayesian Predictive Inference for the Finite Population Quantile of a Small Area
3. Raghunath Arnab: Calibration Estimators from Missing Data.
4. NGN Prasad:

#### **4. Stochastic Calculus**

**Organizer: Kishor Trivedi**

1. V. Mandrekar: Pettis Integrals and Ito Integrals.
2. Barbara Ruediger: Stochastic Differential Equations with Non Gaussian Levy Noise on Infinite Dimensional Spaces.

#### **5. Stochastic Orderings**

**Organizer: Subhash Kochar**

1. Subhash Kochar: Dependence Orderings and Their Applications.

2. Philip J. Boland: Stochastic Comparisons for the Number of Trials Until the  $k^{\text{th}}$  Success and the Number of Successes in  $N$  Trials When the Success Probability Varies.
3. Asok Nanda: Some Properties of Mean Residual Life Function.

**3.40p.m** - **4.00p.m.** : Tea

**4.00p.m** - **5.30p.m.** : Special Invited Sessions (Parallel)

### **1. Financial Time Series** **Organizer: N. Balakrishna**

1. Bovas Abraham: Gamma Stochastic Volatility Models.
2. Apratim Guha: Structural Patterns of Hybrid Time Series: An Information Theoretic Approach.
3. BLS Prakasa Rao: Instrumental Variable Estimation for Linear Stochastic Differential Equations Driven by Fractional Brownian motion.

### **2. Statistical Genetics: Recent Advances in Gene Mapping** **Organizer: Varghese George**

1. Ranajit Chakraborty: Properties of Disease-Gene Association Tests Against Ordered Alternatives.
2. Carol J. Etzel: Meta Analytic Techniques for Genome-Wide Linkage Scans.
3. Robert Podolsky: Classification and Model Averaging for Predictive Models for Disease Onset.
4. Sanjay S. Shete: A Parametric Approach to Two-Locus Genetic Imprinting Analysis.

### **3. Survival Analysis and Censoring** **Organizer: Vasudevan Mangalam**

1. Marepalli Bhaskara Rao: Nonparametric Estimation of Survival Function under Koziol-Green Model.
2. Vasudevan Mangalam: Regression under Loss of Association.
3. Sujit K. Ghosh: Nonparametric Estimation of Mean Residual Life Function using Scale Mixtures.

### **4. Inventory** **Organizer: A Krishnamoorthy**

1. K. P. Sapna Isotupa: Comparison of Two (S, Q) Inventory System with Two Classes of Customers.
2. G. Arivarignan: Perishable Inventory System with Negative Demands.
3. T.P.M. Pakkala: Retailer's Inventory Policies in Response to Vendor's Temporary Discount Offer.

### **5. Student Paper Competition**

1. G. Garg: Estimating Regression Coefficients in Ultrastructural Model Under Stochastic Linear Restrictions
2. A. Mandal: Goodness- of -fit Testing in Growth Curve Models: A General Approach Based on Finite Differences
3. V. Patel: A Comparative Study of Analysis of  $2^n$  Factorial Experiments with Poisson Distributed Response Variable

4. A. Prasad: Sequential Estimation of the Sum of Sinusoidal Model

6.30 p.m.

Banquet

Jan.4-2007

9.00a.m - 10.20p.m. : Plenary Talks 4 and 5.

4. V. Koltchinskii : *Sparsity in High-Dimensional Problems of Learning Theory.*

5. Peter Robinson: *Diagnostic Testing for Co- integration.*

10.20a.m - 10.40p.m. : Tea

10.40a.m - 12.10p.m. : Special Invited Sessions (Parallel)

### 1. Time Series

Organizer: Kanchan Mukherjee

1. Shiqing Ling: : Limiting Theorems for NED Sequences and Testing for Change Points in Time Series Models
2. Suhasini Subbarao: Normalised Least Squares Estimation in Time-Varying ARCH Models
3. Kanchan Mukherjee: M-Estimation in GARCH Models

### 2. Bayesian Bioinformatics

Organizer: Bani Mallick

1. Bani Mallick: Bayesian Curve Classification using Wavelets.
2. Malay Ghosh: Hierarchical Bayesian Vector Machines for Gene Expression-Based Glioma Classification.
3. Peter Muller, MD Anderson: Bayesian Clustering with Regression.
4. Dipak K. Dey: A Semiparametric Bayesian Approach for the Development of Metabonomic Profile.

### 3. Some models and Methodologies in Life Testing and Reliability

Organizer: Ananda Sen

1. Nandini Kannan: Survival Models for Step-Stress Experiments with Lagged Effect.
2. Ananda Sen: Analyzing Recurrent Events under Competing Risks.
3. Sanjib Basu: Bayesian Models for Recurrent Software Failures
4. Madhuchhanda Bhattacharjee:

### 4. Data Mining and Statistical Learning

Organizer: Prem Goel

1. Yongdai Kim: ANOVA Boosting.
2. Bin Li and Prem Goel: Additive Regression Trees and Smoothing Splines – Predictive Modeling and Interpretation in Data Mining.
3. Ranjan Maitra: Clustering Massive Datasets from Arbitrary Gaussian Mixtures.

## **5. Pattern Distributions and Random Walks**

**Organizer: Kishor Trivedi**

1. Kanwar Sen: Waiting Time Distributions of Patterns in Markov Dependent Trials using GERT.
2. Jayaram Sethuraman: Distribution of Frequencies of Patterns in Bernoulli Sequences.
3. Padmanabhan: Box and Hausdorff -Dimensions of Self-Avoiding Walks.

**12.10p.m - 1.10p.m : Invited Sessions 6-10(Parallel)**

### **I- 6 Time Series 2**

1. Krishnarani S. D: Generalized Folded Logistic Distributions and Processes.
2. Nitai Das Mukhopadhyay: Causality and Pathway Search in Micro Array Time Series Experiment.
3. Satheesh. S: Non-Negative Integer-Valued Semi-Self Similar Processes.
4. Uma P: Generalized Mittag-Leffler Distributions and Process.

### **I- 7 Statistical Methodology 2**

1. Alireza Nematollahi: On Comparison of the Tail Distributions using Pitman's measure of Closeness.
2. Jane M. Horgan: Stratification: A Look Back in Anguish.
3. Mini. K. G.: Design of a System for the Collection of Marine Fish Landings in the State of Kerala, India.
4. Sreedevi E P : Analysis of Competing Risk Models Using Neural Networks.

### **I- 8 Statistical Inference 2**

1. Nirpeksh: An Outlier Test Gamma Sample.
2. Reza Pakyari: Non-Parametric Estimation of the Component Density Functions in Multivariate Mixtures.
3. John M. P. de Figueiredo: A Best Approximation Nonlinear Duration Model with Endogenous Regressors.
4. Asokan Mulayath Variyath: Adjusted Empirical Likelihood and its Properties.

### **I-9 Distributions 1**

1. Beena V.T: Moments of Truncated Continuous Univariate Distribution.
2. Kuttykrishnan. A. P: Heavy tailed Pareto Distribution.
3. Davis Antony Mundassery: On Proportional/Proportional Reversed Hazard Class of Distributions.
4. Paul Kattuman: Exact Distributions of Schur Functions.

### **I-10 Queues and Inventories 2**

1. T.G.Deepak: On an  $(s_i, S_i), i=1,2$ , Inventory Problem with Positive Service Time and Transfer of Customers.
2. Viswanath C.Narayanan: An  $(s, S)$  Inventory Policy with Service Time, Variation to Server and Correlated Lead Time.

3. Vineetha K: Effective Utilization of Idle Time in an (s, S) Inventory with Positive Service Time.
4. A Vasumathi: Improved Algorithm on VAM and MODI of Transportation Problem.

**1.10p.m** - **2.10p.m.** : **Lunch**

**2.10p.m** - **3.40p.m.** : **Special Invited Sessions (Parallel)**

### **1. Applications of Bayes Methods**

**Organizer: Dipak Dey**

1. Bhramar Mukherjee: Gene-Environment Interactions: An Empirical Bayes Approach.
2. Samiran Ghosh: Constrained Clustering in Linear Array with Application in Genetics and Microbiology.
3. Sudipto Banerjee: Modelling Large Multivariate Spatial Datasets with Gaussian Predictive Processes.
4. Sujit K. Sahu: High Resolution Space-Time Ozone Modeling for Assessing Trends.

### **2. Applied Multivariate Analysis**

**Organizer: Thomas Mathew**

1. Dulal Bhaumik: Tests for Comparing Variance Components in Multivariate Mixed-Effects Models.
2. K. Krishnamoorthy: Tolerance Regions for a Multivariate Normal Distribution.
3. Dietrich von Rosen: Estimation of Covariance Matrices with Kronecker Product Structure.

### **3. Distributions and Applications**

**Organizer: N. Balakrishnan**

1. M. Chris Jones: Jones's Johnson Distributions.
2. Barry C. Arnold: On Stress-Strength Models Involving Conditional Specification.
3. Debasis Kundu: On Hybrid Censored Weibull Distribution.

### **4. Case Control Studies**

**Organizer: Arvind Pandey**

1. S.N. Dwivedi: Case-Control Analysis of Unintended Pregnancy.
2. C.M. Pandey: Role of Anti-Ganglioside Antibodies and Preceding Infections in Guillain Barré Syndrome: A Prospective Case-Control Study.
3. K.R. Sundaram: Designing and Data Analysis in Case - Control Studies.
4. Abha Aggarwal: A Community Based Case Control Study of Maternal Deaths and its Associated Factors.

### **5. Model Analysis and Inventory**

**Organizer: Sri Gopal Mohanty**

1. Kishor Trivedi: Software Rejuvenation - Modeling and Analysis.
2. Moosa Sharafali: Stochastic Modeling of Congestion at an Airport Check-in Counter.
3. Michinori Sakaguchi: On the Multi-Period Inventory Models with Decreasing Time-Varying Demand.

**3.40 p.m** - **4.00 p.m.** : Tea

**4.30 p.m** : Sunset Boat Trip

Jan.5-2007

**9.00a.m** - **10.30a.m.** : Special Invited Sessions (Parallel)

**1. Model Diagnosis**  
**Organizer: Winfried Stute**

1. Li-Xing Zhu: Goodness-of-fit Testing for Varying-Coefficient Models.
2. Winfried Stute: Model Diagnosis for Parametric Regression in High Dimensional Spaces.
3. Wenceslao Gonz'alez-Manteiga: Goodness-of-fit tests in Parametric Regression Based on the Estimation of the Error Distribution.

**2. Contemporary Asymptotics – A Special session dedicated to the memory of Professor D. Basu**  
**Organizer: Anirban Dasgupta**

1. Piet Groeneboom: From Global to Local and Vice Versa.
2. Qi-Man Shao: Limit Theorems for Self-Normalized Processes.
3. Moulinath Banerjee: Split -Point Estimation in Semiparametric and Nonparametric Models.

**3. Computer Intensive Statistical Methods**  
**Organizer: Soumen Lahiri**

1. Sanjay Chaudari: A two-step Empirical Likelihood Based Approach for Combining Sample and Population Data in Generalized Linear Models.

**4. Inference for Dependent Data**  
**Organizer: Uttara Naik-Nimbalkar**

1. T. V. Ramanathan: Some Estimation Results in Self-Similar Processes.
2. BLS Prakasa Rao: Parameter Estimation for Some Stochastic Partial Differential Equations Driven by Infinite Dimensional Fractional Brownian Motion.

**5. Probability Theory**  
**Organizer: A Krishnamoorthy**

1. Claude Lef'evre: Strengthened Inequalities under Fractional Unimodality Conditions.
2. M. M. Rao: Integral Representations of Classes of Nonstationary Random Fields.
3. Balram Rajput: Uniform Comparison of Tail Probabilities of (Non-Symmetric) Random Vectors and their Symmetrized Counterparts with Applications.

**10.30a.m** - **10.45a.m.** : Tea

**10.45a.m** - **12.15a.m.** : Special Invited Sessions (Parallel)

**1. Topics in Inference**  
**Organizer: Ravindra Khattree**

1. R. Thavaneswaran: Recent Developments in Fuzzy Volatility Models with Applications.
2. M.B. Rao: A Discrete Probability Problem on Dermal Patches.
3. Riccardo Gatto: Computing the Probability of Ruin of the Perturbed Risk Process.

**2. Financial Mathematics**  
**Organizer: Rajeeva Karandikar**

1. Rajeeva Karandikar: On Merton's Paradigm for Assessing Credit Risk via Option Pricing Theory
2. Zari Rachev: Trading Strategies.

**3. Environmental, Ecological and Spatial Statistics**  
**Organizer: Paramjit Gill**

1. Farouk Nathoo: Mixture Models for Spatio-Temporal Multi-State Processes.
2. Subhash Lele: On using Expert Opinion in Ecological Analysis: A Frequentist Approach.
3. William Reed: Statistical Methods in Forest Fire History Studies.

**4. Queues and Branching Process**  
**Organizer: A Krishnamoorthy**

1. Shoichi Nishimura: Modeling of IP Traffic by a BMAP and a Discrete-Time BMAP Queue with a Finite Buffer.
2. K. Athreya: A Branching Process Approach to the Growth of Random Tree Models of the www

**5. Reliability**  
**Organizer: Jayant Deshpande**

1. Debasis Sengupta: On Graphical Tests for Proportionality of Hazards of Two Samples.
2. Isha Dewan: On Confidence Intervals for Subquantiles and Tolerance Intervals for Subdistribution Functions.
3. R P Suresh: Order Preserving Property of Functions of Order Statistics.

**12.15a.m - 1.15p.m. : Invited Sessions 11-15(Parallel)**

**I-11 Time Series 3**

1. K. K. Jose: On a Mixture of Normal and Laplace Distributions and its Applications in Time Series Modelling.
2. Usha Nair: Fractal Extraction of Sound Signal in Machining.
3. Rajesh V.G.: Tool condition Monitoring in a Lathe Using Time series Analysis of vibration Signals.
4. Radhakrishnan P M: Characterization of Speech using Time Series Analysis.

**I- 12 Statistical Inference 3**

1. Nibha Srivastava: O-BLUE for Outlier Tests.
2. Jenson P O: Skewness- A Nonparametric Study.
3. P. Dhanavanthan: Testing The Effective Intervention in Compound Intervened Poisson distribution.

4. S.Lalitha: Outlier Tests for Uniform Variates.

#### **I- 13 Statistical Inference 4**

1. P. V. Pushpaja: A General Approach of Testing the Significance of Variance.
2. Abhay Kumar Ojha: Bayes Estimation of Shannon's Measure of Entropy for Generalized Rayleigh Distribution.
3. Arvind Kumar Shrivastava: Robust Bayesian Analysis of a Multivariate Regression Model.
4. Somesh Kumar: On Estimating Quantiles of a Normal Population.

#### **I -14 Distributions 2**

1. Mercy Joseph: On Probability Weighted Moments and L-moments of Complete and Censored Data from Arbitrary Populations.
2. Stephy Thomas: Joint Distribution of Runs and Occurrence of Events in Markov Dependent Multi State Trials.
3. Sudheesh K K: Some Results on Lower Variance Bounds Useful in Reliability Modelling and Estimation.
4. Thomas Mathew: Distribution of Exponential Mixtures.

#### **I- 15 Reliability and Survival Analysis**

1. Sumathi K.: Cure Rate Models: A Review.
2. N Ahmad: The Exponentiated Weibull Software Reliability Growth models with Various Testing-efforts: A Performance Analysis.
3. Bahman Honari: Early Detection of Reliability Changes using the Field Failure Data; The type II Error Study.
4. Sunder Subramanian: The Missing censoring Indicator model and Smoothed Bootstrap.

**1.15p.m - 2.15p.m : Lunch**

**2.15p.m - 3.45p.m : Special Invited Session**

#### **1. Special Topics**

**Organizer: S. Rao Jammalamadaka**

1. Andrey Feuerverger: On the Uniform Deconvolution Problem.
2. Tomasz J. Kozubowski: Skew Laplace distributions: Origins, Inter-relations, and Generalizations.
3. Catherine Dehon: Robustness or Efficiency: A Test to Solve Dilemma.

#### **Invited Sessions 16-19 (Parallel)**

#### **I-16 Statistical Quality Control**

1. E V Gijo: Customer Satisfaction Improvement: A Case Study.
2. K Pradeepa Veerakumari: Designing of Bayesian Single Sampling Plan Indexed Through Maximum Allowable Overall Average Outgoing Quality.
3. Prathiba K: Construction and Selection of Skip-Lot Sampling Plan with Conditional Repetitive Group Sampling Plan as Reference Plan.
4. Bindu M. Krishna: A New Synchronization Measure in the Study of Comparative Efficiencies of Various Coupling Schemes.

5. S Jayalakshmi: Selection of Quick Switching System with Special Type Double Sampling Plans through MAPD and MAAOQ.

### **I- 17 Bayesian Inference 1**

1. Sangeeta Arora: Distribution of COMIC Index and Some Welfare Results.
2. Shipra Banik: Output Convergence in Asian Economies: A Time Series Approach.
3. Jitendra Kumar: Testing for Unit Root in the Presence of Stationary Covariate: A Bayesian Approach.
4. Madhuja Mallick: Bayesian Inference for Bivariate Positive Stable Frailty Models.
5. A. Bhattacharjee: Bayesian Analysis of Hazard Regression Models under Order Restrictions on Covariate Effects and Ageing.
6. Kanchan Jain: On a Cumulated Mean Income Curve.

### **I-18 Probability**

1. Biren Pandya: Estimation of Survival Probability of Herbaceous Vegetation.
2. R. Kannan: Estimation of Expected Time to Cross the Antigenic Diversity Threshold of HIV Infected.
3. Mahmudul Huq: Probability of Occurrence: How Does Our Intention Influence the Occurrence?
4. Ranjitha Misra: State Space Models with Errors in Variables in Panel Data.
5. Manas Nanda: Empirical Method for Estimating Turning Counts from Link Flows.
6. S. Koteswara Rao: Hit Probability in Underwater Scenario.

### **I-19 Queues and Inventories 3**

1. K.P.Jose: An (s, S) Inventory System with Positive Lead Time, Loss and Retrieval of Customers.
2. N. Raju: D-Policy for a Production Inventory System of Perishable Items.
3. P.V. Ushakumari: On (s,S) Inventory system with Random Lead Time and Repeated Demands.
4. M. Manoharan: Queuing Models: Identifiability and Characterization.
5. K. Sikdar: The Analysis of a Finite Buffer General Input Queue with Bulk Service and Exponential Multiple.
6. S. Gajanana: Group Replacement Model using Higher Order Markov Chains Considering Inflation.

**3.45p.m** - **4.00p.m,** : Tea

**4.00p.m** - **5.00 p.m,** : Invited Sessions 20-24 (Parallel)

### **I- 20 Queue and Inventories 4**

1. T. Vijayan: An Investigation of Fuzzy Cost on Inventory Model with a Mixture of Backorders and Lost Sales.
2. Y Sarada: Bivariate Warranty Cost Analysis for Second hand Products.
3. P. K. Pramod: Discrete Time Queues with Service Interruptions.

### **I-21 Statistical Methodology 3**

1. Sanghamitra Pal: Modifications on Rescaling Bootstrap Technique.

2. Sujay Datta: Predicting the 3D Structure of a Protein: Some Statistical and Machine – Learning.
3. Kumar Saurabh: A Statistical Measure to Software Consistency by Logistic and Gompertz Growth Curve models: A System Dynamics Approach.

#### **I-22 Statistical Methodology 4**

1. Ram Shanmugam: Analyzing and Interpreting Health Records and Bioterror applications.
2. T S Talwar and K. S. Wali: Modeling of HIV/AIDS in Homosexual Population.
3. Rashid Ahmed: Use of Markov Transmission Model to Analyze Longitudinal Data on Youth Smoking.
4. Tatjana Nahtman: An Overview of Linear Models with Pattern Covariance Structures.

#### **I-23 Statistical Inference 5**

1. P.Anil Kumar: Elementary Data Analysis Reconsidered
2. Jean-Francois Angers: Bayesian Modelling and Estimating Individual and Firm Effects with Panel Data.
3. Guosheng Yin: Bayesian Additive – Multiplicative Cure Rate Model.

**5.00 p. m      –      5.15 p.m                      : Valedictory Session**

Jan.6-2007

**9.30 a.m.      -      12.30p.m.                      : Workshop on Financial Mathematics**  
**Organizers/Speakers                                      S.T. Rachev and Sebastian Kring**

**Note: Plenary sessions (40 minutes for each talk)**  
**Special invited sessions (30 minutes for each talk)**  
**Invited sessions (15 minutes for each talk)**