Scientific Program: INDSTATS 2019

Innovations in Data and Statistical Sciences
Co-organizer: IIT Bombay, Mumbai, India
Updated December 16, 2019

December 26th - 30th, 2019

Venue: Victor Menezes Convention Centre, *Location on Map:* Click here!

Layout Plans: Ground Floor, First Floor

Thursday, Dec 26, 2019

9:00am - 1:00pm Parallel Workshops

1. Surviving the Big Data challenge - Why Data Science needs Statisticians for making AI Effective

   Course Facilitator: Professor Arnab Kumar Laha , Indian Institute of Management Ahmedabad

   Venue: Seminar Room 1

2. Statistical Methods for Geospatial Analysis

   Course Facilitator: Dr. Pradeep Mohan, SAS Institute

   Venue: Seminar Room 2

9:00am - 5:30pm R Conference

1. R Conference

   Invited Speakers:

   (a) Susan Holmes, Professor of Statistics, Stanford University

   (b) Martin Morgan, Research Professor, Biostatistics, SUNY, Buffalo and Director of the Bioconductor project

   Venue: Lecture Hall 21

Friday, Dec 27, 2019

9:30am - 10:30am Plenary Session

1. R R Bahadur Memorial Lecture

   Organizer: Hira L. Koul, Michigan State University

   Chair: Hira L. Koul, Michigan State University

   Venue: Main Auditorium

   Asymptotics of large dimensional random matrices and its uses in statistical analysis, Arup Bose, Indian Statistical Institute, Kolkata

10:35 - 11:55am Special Invited Session

1. Special Invited Session 1

   Chair: Mahesh Iyer, Sineflex Solutions LLP

   Venue: Main Auditorium

   (a) Specifying scale in null hypotheses for noninferiority clinical trials, Richard J. Chappell, University of Wisconsin-Madison

   (b) Small area prediction of survey weighted counts using georeferenced data, Hukum Chandra, Indian Agricultural Statistics Research Institute

12:05 - 1:35pm Parallel Scientific Sessions

Invited Sessions

1. Bayesian structure learning

   Organizer: Subhashish Ghoshal, North Carolina State University

   Chair: Suman Majumdar,University of Connecticut

   Venue: Main Auditorium

   (a) Estimating densities with nonlinear support using Fisher-Gaussian kernels, Minerva Mukhopadhyay, Indian Institute of Technology, Kanpur

   (b) Bayesian factor analysis for high-dimensional clustering, Noirrit Kiran Chandra, Duke University

   (c) Bayesian structure learning in graphical models using shrinkage priors, Sayantan

Banerjee, Indian Institute of Management Indore

(d) Model based joint quantile regression with dependency, Surya Tokdar, Duke University

2. Random matrix theory and high-dimensional data analysis

Organizer: Debashis Mondal, Oregon State University

Chair: Shahina Rahman, Texas A&M University

Venue: Seminar Room 1

(a) Testing general linear hypotheses under a high-dimensional spiked model, Debashis Paul, University of California, Davis

(b) Extreme eigenvector in gue with rank one deformation in the critical regime, Dong Wang, National University of Singapore

(c) Does a consumer's previous purchase predict other consumers' choices? A Bayesian probit model with spatial correlation, Bikram Karmakar, University of Florida

(d) Stochastic approximation algorithm for estimating mixing distribution: natural extensions to dependent cases, Nilabja Guha, University of Massachusetts Lowell

3. Recent advances in multivariate shape constrained estimation

Organizer: Adityanand Guntuboyina, University of California Berkeley

Chair: Adityanand Guntuboyina, University of California Berkeley

Venue: Seminar Room 2

(a) Statistical and computational challenges in estimating permutation-based models with shape constraints, Ashwin Pananjady, University of California Berkeley

(b) Adaptive estimation of multivariate piecewise constant and bounded variation functions by dyadic cart type methods, Sabyasachi Chatterjee, University of Illinois at Urbana-Champaign

(c) Multivariate extensions of isotonic regression and total variation denoising via entire monotonicity and hardy-krause variation, Adityanand Guntuboyina, University of California Berkeley

4. Advances in statistical applications in biomedical science and personalized medicine

Organizer: Tanujit Dey, Cleveland Clinic Lerner Research Institute

Chair: Tanujit Dey, Cleveland Clinic Lerner Research Institute

Venue: Seminar Room 4

(a) Good machine learning for better healthcare, Nigam Shah, Stanford University

(b) Computational framework for accelerating translational medicine, Purvesh Khatri, Stanford University

(c) Bayesian kernel based methods for individualized treatment regime selection for personalized medicine, Sounak Chakraborty, University of Missouri-Columbia

(d) Bayesian nonparametric modeling for continuous time causal mediation analysis, Tanujit Dey, Cleveland Clinic Lerner Research Institute

5. A discourse in time-to-event analysis

Organizer: Ananda Sen, University of Michigan, Ann Arbor

Chair: Ananda Sen, University of Michigan, Ann Arbor

Venue: Seminar Room 5

(a) Reliability modeling and estimation of phased mission systems, Chiranjit Mukhopadhyay, Indian Institute of Science

(b) Simple step-stress models with a cure fraction, Debasis Kundu, IIT Kanpur

(c) Correlated inverse Gaussian frailty models based on reversed hazard rate, David Hanagal, Symbiosis Statistical Institute, Symbiosis International
University

(d) Honey i shrunk the intercept, Ananda Sen, University of Michigan, Ann Arbor

Contributed Sessions

1. Statistical Modelling - 1

Chair: Dibyendu Bhaumik, Reserve Bank of India

Venue: Seminar Room 11

(a) Compatibility of conditional distributions, Manjunath B G, University of Hyderabad

(b) A multiple group latent class analysis under social influence, Ankita Dey, KPC Medical College and Hospital, Kolkata.

(c) Logistic regression – a comparison between saddle point approximations and other methods, Sumit Singh, Cytel

(d) Regression for doubly inflated multivariate Poisson distributions, Sumen Sen, Austin Peay State University

(e) Copula-based multivariate CMP mixture models for doubly inflated count data, Monika Arora, Indraprastha Institute of Information Technology Delhi

(f) Detection of multiple outliers in linear regression using robust method and the two-phase procedure, Mintu Das, DHSK Commerce College

(g) Dimensionality reduction by maximizing mutual information between predictor variables and responses, Choudur Lakshminarayan, Teradata Labs

(h) Conditional performance analysis of phase ii exponential chart for monitoring rare events, Nirpeksh Kumar, Banaras Hindu University

1:35 - 2:35pm LUNCH

2:35 - 4:05pm Tutorial Session

1. A General Introduction to Non-Inferiority Trials

   Instructor: Richard J. Chappell, University of Wisconsin-Madison

   Venue: Seminar Room 3

2:35 - 4:05pm Parallel Scientific Sessions

Invited Sessions

1. Statistical genomics

   Organizer: Sanjay Shete, The University of Texas MD Anderson Cancer Center

   Chair: Sanjay Shete, The University of Texas MD Anderson Cancer Center

   Venue: Main Auditorium

   (a) Mediation analysis in a case-control study when the mediator is a censored variable, Jian Wang, The University of Texas MD Anderson Cancer Center

   (b) A Bayesian semiparametric latent variable approach to causal mediation, Yisheng Li, The

University of Texas MD Anderson Cancer Center

(c) Bidirectional Mendelian randomization approach to assess direct and indirect mediation effects in cross sectional studies with application to BMI and obesity, Rajesh Talluri, University of Mississippi Medical Center

(d) The effect of feedback loops on bidirectional Mendelian randomization, Sanjay Shete, The University of Texas MD Anderson Cancer Center

2. Algorithms and analysis: How statistics is shaping today's data science

Organizer: Jayanta Pal, Zendrive Technologies, Inc.

Chair: Jayanta Pal, Zendrive Technologies, Inc.

Venue: Seminar Room 1

(a) Safety analytics: one number says it all - Part i: conceptual development, Anil Gore, CYTEL Statistical Software and Services Pvt.Ltd.

(b) Stochastic gradient descent and Fisher scoring, Vignesh Subramaniam, Intuit

(c) Integrative analysis of imaging and genomics data, across biological scale, Arvind Rao, University of Michigan

(d) Route risks using driving data on road segments, Jayanta Kumar Pal, Zendrive Technologies, Inc.

3. Linear transformation model for censored data

Organizer: Kattumannil Sudheesh, Indian Statistical Institute, Chennai

Chair: Kattumannil Sudheesh, Indian Statistical Institute, Chennai

Venue: Seminar Room 2

(a) A semi-parametric approach to censored linear transformation models with covariate measurement error, Deemat Mathew, St. Thomas College Palai, Mahatma Gandhi University Kottayam

(b) Linear transformation models for current status data with long term survivors, Sreedevi E.P, University of Calicut

(c) Semiparametric transformation model for competing risk with cure fraction for interval

censored data, Sudheesh Kumar Kattumannil, Indian Statistical Institute, Chennai

4. Methodology for functional and high-dimensional data

Organizer: Subhajit Dutta, Indian Institute of Technology Kanpur

Chair: Shyamal Krishna De, National Institute of Science Education and Research, India

Venue: Seminar Room 4

(a) Dynamic dimension selection in functional PCA identifying change point in functional data, Buddhananda Banerjee, IIT Kharagpur

(b) Bootstrap inference in LASSO, Debraj Das, Indian Institute of Technology Kanpur

(c) The statistical face of a region under monsoon rainfall in eastern India, Kaushik Jana, Imperial College London and the Alan Turing Institute

(d) Estimating historic movement of a climatological variable from a pair of misaligned functional data sets, Dibyendu Bhaumik, Reserve Bank of India

5. Efficient and tractable modern computing methods

Organizer: Surya Tokdar, Duke University

Chair: Surya Tokdar, Duke University

Venue: Seminar Room 5

(a) Machine learning methods for causal inference from complex observational data, Alexander Volfovsky, Duke University

(b) Efficient Bernoulli factory MCMC for intractable likelihoods, Dootika Vats, Indian Institute of Technology, Kanpur

(c) By all means, k-means, Jason Xu, Duke University

(d) Improving variational inference via sampling, Piyush Rai, IIT Kanpur

Contributed Sessions

1. Statistical Modelling - 2

Chair: Nabarun Deb, Columbia University

Venue: Seminar Room 11

(a) Calibration estimation of regression coefficient from sample survey data with additional auxiliary variables, Vandita Kumari, Indian Agricultural Statistics Research Institute

(b) Row-column designs for factorial experiments with baseline parameterization, Sukanta Dash, Indian Agricultural Statistics Research Institute

(c) Modified simplex-centroid designs with complete blends for mixture experiments, Baidya Nath Mandal, Indian Agricultural Statistics Research Institute

(d) Data depth based tests for equality of mean functions, Latika Shinde, Prof. Dr. N. D. Patil Mahavidyalaya

(e) Max-affine regression: provable, tractable, and near-optimal statistical estimation, Avishek Ghosh, University of California- Berkeley

4:35 - 6:05pm Parallel Scientific Sessions

Invited Sessions

1. Modern topics in Bayesian computation

Organizer: Yang Ni, Texas A&M University

Chair: Rajesh Talluri, University of Mississippi Medical Center

Venue: Main Auditorium

(a) Anchored Bayesian Gaussian mixture models, Mario Peruggia, The Ohio State University

(b) Scalable Bayesian nonparametric clustering and classification, Peter Mueller, UT Austin

(c) A fast algorithm for clustering high dimensional data, Shahina Rahman, Texas A&M University

(d) Some applications of MCMC perturbations in high-dimensional problems, Anirban Bhattacharya, Texas A&M University

2. Large scale inference and applications

Organizer: Gourab Mukherjee,University of Southern California

Chair: Bikram Karmakar, University of Florida

Venue: Seminar Room 1

(a) Quantifying indirect costs of a sales agent departure: how relationships, effort, & moral hazard contribute to revenue loss, Wreeto Kar, Purdue University

(b) High dimensional semi-supervised regression: a framework for robust sparsity-free inference, Abhishek Chakrabortty, Department of Statistics, Texas A&M University

(c) Estimation in ising and higher-order Markov random fields, Bhaswar Bhattacharya, University of Pennsylvania

(d) Large-scale Bayesian modeling for studying promotion effects in marketing campaigns, Sabyasachi Mukhopadhyay, Indian Institute of Management, Udaipur

3. Recent developments in analysis of complex survey data

Organizer: Hukum Chandra, ICAR-Indian Agricultural Statistics Research Institute

Chair: Hukum Chandra, ICAR-Indian Agricultural Statistics Research Institute

Venue: Seminar Room 2

(a) Bayesian predictive inference of a finite population proportion under selection bias, Dhiman Bhadra, IIM Ahmedabad

(b) Estimation of finite population total under two-stage sampling design using two step calibration approach, Pradip Basak, ICAR-Indian Agricultural Statistics Research Institute

(c) Inverse adaptive cluster sampling, Raosaheb Latpate, Savitribai Phule Pune University

(d) Estimating rare and elusive population using past data: Kalman filter approach, Sanghamitra Pal, West Bengal State University, Barasat, India

4. Matching of survey data, analysis of outcome dependent sampling, missingness and unmeasured confounding

Organizer: Ryung Kim, Albert Einstein College of Medicine

Chair: Ryung Kim, Albert Einstein College of Medicine

Venue: Seminar Room 3

(a) Estimation of causal effect in non-randomized trials by propensity score method, ArunKumar Namachivayam, Bapuji Dental College and Hospital

(b) A two-phase approach to account for unmeasured confounding and censoring of a fixed time endpoint, Jaeun Choi, Albert Einstein College of Medicine

(c) Statistical method for analyzing missing data in nested case control studies, Shankar Viswanathan, Albert Einstein College of Medicine

(d) Methods for statistical matching of survey data, Tinku Thomas, St. John's Medical College

5. Statistical modeling of high dimensional genomic data

Organizer: Saonli Basu, University of Minnesota

Chair: Abhirup Datta, Johns Hopkins Bloomberg School of Public Health

Venue: Seminar Room 4

(a) Genetic association mapping of multivariate phenotypes in the presence of missing data, Saurabh Ghosh, Indian Statistical Institute, Kolkata

(b) Advances and challenges in single cell rna-seq analysis, Susmita Datta, University of Florida

(c) A new statistical test for discovering genetic variants influencing two traits using gwas summary statistics, Debashree Ray, Johns Hopkins University

(d) Estimation of snp-based heritability in multi-ethnic studies, Saonli Basu, University of Minnesota

6. Recent advances in longitudinal and time series data

Organizer: Sourish Das, Chennai Mathematical Institute, India

Chair: Sourish Das, Chennai Mathematical Institute, India

Venue: Seminar Room 5

(a) Study of spectrum for fractional Brownian motion driven model with application in finance, Ananya Lahiri, IIT Tirupati

(b) Measuring non-stationarity of a time series., Sourav Das, James Cook University

(c) Analysing causal effect of London cycle superhighways on traffic congestion, Prajamitra Bhuyan, Imperial College London

(d) Statistical models for yield loss estimation in rice crop due to weeds, Yogita Gharde, ICAR-Directorate of Weed Research

Contributed Sessions

1. Distribution Theory and Estimation

Chair: B G Manjunath, University of Hyderabad

Venue: Seminar Room 11

(a) An improved estimator for estimating finite population mean using linear combination of tri-mean and quartile average of auxiliary variable under predictive modeling approach, Dharmendra Kumar Yadav, Ramanujan College, University of Delhi

(b) Improved class of estimators for population variance using two auxiliary information, Chandni Kumari, Babasaheb Bhimrao Ambedkar University Lucknow

(c) Asymtotic variance and mse for two generalized uniform distributions, Milind Bhatt, Sardar Patel University

(d) A super population model approach to imputation for estimating population mean, Priyanka Singh, SRM IST

(e) Ratio and product estimators for population mean using auxiliary attribute: a predictive approach, Monika Saini, Manipal University Jaipur

(f) A new algorithm for the partition of Pearson's chi-squared statistic for multiway contingency table, Kirtee Kamalja, Kavayitri Bahinabai Chaudhari North Maharashtra University

(g) On improved estimation of population variance in double sampling using auxiliary information, Tarunpreet Kaur Ahuja, D.A.V. (P.G.) College, Dehradun

2. Biostatistics

Chair: Kalins Banerjee, Pennsylvania State University

Venue: Seminar Room 12

(a) Covariate-adjusted response-adaptive designs for Weibull distributed survival responses, Ayon Mukherjee, Parexel

(b) Blinded sample size re-estimation in 2 × 2 crossover trial, Kaustav Banerjee, Indian Institute of Management, Lucknow

(c) On the estimation of population size using sample capture-recapture data under dependence with application to encephalitis incidences, Kiranmoy Chatterjee, Bidhannagar College, Kolkata

(d) Design and analysis of clinical studies for estimation of therapeutic window using functional uniform prior, Arunangshu Biswas, GSK Pharma

(e) Time-course data prediction for longitudinal gene expression, Gajendra Vishwakarma, Indian Institute of Technology (ISM) Dhanbad

(f) Schutz coefficient: a simple alternative to Youden index, Pramod Gupta, Post-Graduate Institute of Medical Education and Research, Chandigarh

Saturday, Dec 28, 2019

9:00am - 10:00am Plenary Session

1. Plenary Session 2

Chair: Amarjot Kaur, Merck Research Labs

Venue: Main Auditorium

Survival analysis using a 5-STAR approach in Randomized Clinical Trials, Devan Mehrotra, Merck Research Labs

10:00 - 11:20am Special Invited Session

1. Special Invited Session 2

Chair: Amarjot Kaur, Merck Research Labs

Venue: Main Auditorium

(a) In her own right: Achieving statistics celebrity, Amanda L. Golbeck, University of Arkansas

(b) The kernel interaction trick: Fast Bayesian discovery of pairwise interactions in high dimensions, Tamara Broderick, Massachusetts Institute of Technology

10:00 - 11:30am Student Poster Competition Session

Venue: Ground Floor Foyer

1. Sensitivity of adaptive lasso, Tathagata Basu, Durham University, UK

2. A weighted likelihood approach for problems in survival data, Adhidev Biswas, Indian Statistical Institute, Kolkata

3. Optimal confidence bands under shape restriction in multidimension, Pratyay Datta, Columbia Unversity

4. Learning a cusp catastrophe model through feedforward neural network, Ranadeep Daw, University of Missouri

5. Designing of new screening procedure on quick switching double sampling system, Manjula Dhandapani, PSG College of Arts & Science

6. A two-sided control chart for process mean based on sequential sampling, Dadasaheb G. Godase, Department of Statistics, Shivaji University, Kolhapur

7. Current status data with two competing risks and missing failure types: a non-parametric approach, Tamalika Koley, Indian Statistical Institute, Kolkata

8. Sensitivity analysis of water budget due to precipitation forcing errors for the potomac river basin using the VIC hydrologic model, Reetam Majumder, University of Maryland, Baltimore County

9. Flexible modeling of variable asymmetries in cross-covariance functions for multivariate random fields, Ghulam Abdul Qadir, King Abdullah University of Science and Technology (KAUST)

10. Fast MCMC techniques for fitting Bayesian mixture models to massive multiple-platform cancer data, Archie Sachdeva, University of Florida

11. Design of experiments for the identification and estimation of peer effects, Siddhaarth Sarkar, Indian Statistical Institute, Kolkata

12. Multivariate association analysis with correlated traits in related individuals, Souvik Seal, Biostatistics Department, Universtiy of Minnesota

13. Estimation of reliability in multi-component stress strength model based on generalized exponential distribution, Devendra P. Singh, Indian Institute of Technology, Patna

14. Some goodness of fit tests based on depth spacings., Rahul Singh, Indian Institute of Technology, Kanpur

11:30am - 1:00pm Student Paper Competition Session

1. Student Paper Competition - Applications

Organizer: Subrata Kundu, George Washington University; Saonli Basu, University of

Minnesota

Chair: Saonli Basu, University of Minnesota

Venue: Main Auditorium

(a) Analyzing longitudinal clustered count data with zero inflation: marginal modeling using the Conway-Maxwell-Poisson distribution, Tong (Amanda) Kang, University of Florida

(b) Bivariate functional quantile envelopes with application to Radiosonde wind data, Gaurav Agarwal, King Abdullah University of Science and Technology

(c) Study on star formation history of nearby galaxies: A Bayesian approach, Soumojit Das, University of Maryland, College Park

(d) An adaptive multivariate two-sample test with application to microbiome differential abundance analysis, Kalins Banerjee, Pennsylvania State University

(e) Evaluating quality adjusted life years using proxy utility function and joint modeling of longitudinal and Weibull accelerated failure time models, Vishal Deo, University of Delhi

11:30am - 1:00pm Parallel Scientific Sessions

Invited Sessions

1. Data science methods for integration of multi-modal datasets

Organizer: Arvind Rao, University of Michigan, Ann Arbor

Chair: Arvind Rao, University of Michigan, Ann Arbor

Venue: Seminar Room 1

(a) Accelerating bioinformatics using deep learning, Mayank Baranwal, University of Michigan, Ann Arbor

(b) Geospatial analysis: 3 case studies, Pradeep Mohan, SAS Institute Inc.

(c) Radiogenomic analysis incorporating tumor heterogeneity in imaging through densities, Shariq Mohammed, University of Michigan

(d) A spatio-temporal topic flow model to model polarization in news and online media (virtual presentation), Shyam Ranganathan, Virginia Tech

2. Precision medicine and prevention

Organizer: Karunarathna Kulasekera, University of Louisville

Chair: Jyotishka Datta, University of Arkansas

Venue: Seminar Room 2

(a) Handling sampling and selection bias in association studies embedded in electronic health records, Bhramar Mukherjee, University of Michigan

(b) Design strategies in mobile health: from micro to macro level experiments, Bibhas Chakraborty, National University of Singapore

(c) Personalized treatment selection for optimization of survival and other outcomes, Somnath Datta, University of Florida

3. Analysis of complex and heterogeneous data with modern statistical models

Organizer: Naveen Naidu Narisetty, University of Illinois at Urbana-Champaign

Chair: Naveen Naidu Narisetty, University of Illinois at Urbana-Champaign

Venue: Seminar Room 3

(a) Communication-efficient integrative regression in high dimensions, Mouli Banerjee, University of Michigan

(b) On statistical analysis of spectral graph algorithms for community detection in networks, Ambedkar Dukkipati, Indian Institute of Science

(c) Subgroup analysis based on structured mixed-effects models for longitudinal data, Juan Shen, Fudan University

(d) Testing for heteroscedasticity in functional linear models., Pramita Bagchi, George Mason University

4. Probability on discrete structures

Organizer: Sayantan Banerjee, IIM Indore

Chair: Sayantan Banerjee, IIM Indore

Venue: Seminar Room 4

(a) Strong convergence of infinite color balanced urns under uniform ergodicity, Antar

Bandyopadhyay, Indian Statistical Institute, Delhi Centre

(b) Scaling limit of a dynamical drainage network model and application to convergence to the Brownian net in crossing path set up, Kumarjit Saha, Ashoka University

(c) Scaling limits for discrete interface models, Rajat Subhra Hazra, Indian Statistical Institute

(d) Some extremal properties of branching random walks, Rishideep Roy, IIM Bangalore

5. Scaling limits and statistical inference of stochastic dynamical systems

Organizer: Wasiur R. KhudaBukhsh, MBI, The Ohio State University

Chair: Wasiur R. KhudaBukhsh, MBI, The Ohio State University

Venue: Seminar Room 5

(a) A semiparametric Bayesian spatiotemporal model for extreme value analysis with big data, Arnab Hazra, King Abdullah University of Science and Technology

(b) Interacting urns on finite graphs, Gursharn Kaur, National University of Singapore

(c) Linear eigenvalue statistics of non-Hermitian random band matrices, Rajesh Nandy, University of North Texas

(d) Survival dynamical systems for the population-level analysis of epidemics, Wasiur R. KhudaBukhsh, MBI, The Ohio State University

6. Statistical inference with Bayesian nonparametrics

Organizer: Yang Ni, Texas A&M University

Chair: Yang Ni, Texas A&M University

Venue: Seminar Room 11

(a) Dependent discrete random structures in Bayesian nonparametrics, Igor Pruenster, Bocconi University

(b) Modeling human microbiome data via latent nested nonparametric priors, Michele Guindani, University of California Irvine

(c) Bayesian nonparametric bi-clustering of microbiome data, Yang Ni, Texas A&M University

Contributed Sessions

1. Spatio-temporal and Time Series Analysis

   Chair: Kaustav Banerjee, Indian Institute of Management, Lucknow

   Venue: Seminar Room 12

   (a) Negative binomial integer autoregressive model of order one (NBINAR(1)) with seasonal structure, Manik Awale, Savitribai Phule Pune University

   (b) Comparison between arithmetico geometric process and geometric process repair models for cold standby repairable system with use priority., Babasaheb Thorve, Department of Statistics, New Arts, Commerce and Science College

   (c) Statistical pre harvest forecast modeling for kharif rice in Navsari district of South Gujarat, India, Yogesh A. Garde, Navsari Agricultural University

   (d) Spatio-temporal transport error covariance models for large scale inversions, Subhomoy Ghosh, National Institute of Standards and Technology

   (e) Forecasting market risk of Indian equity and bond market indices, Santanu Dutta, Tezpur University

   (f) Large scale time series forecasting with Walmart supply chain use case, Brijesh Kumar Singhal, Walmart Labs

   (g) The bivariate INARMA(1,1) model with correlated Poisson innovations, Naushad Mamode Khan, University of Mauritius

   (h) A graphical model to detect global teleconnections using spherical needlets, Indranil Sahoo, Virginia Commonwealth University

1:00 - 2:00pm LUNCH

2:00 - 3:00pm Panel Discussion

1. Communication and mentoring skills for statisticians

   Organizer: Shailaja Suryawanshi, Merck & Co.

   Moderator: Shailaja Suryawanshi, Merck & Co.

   Venue: Main Auditorium

   Speakers:

(a) Lisa LaVange, UNC Chapel Hill

(b) Mahesh Iyer, Sineflex Solutions LLP

(c) Bhramar Mukherjee, University of Michigan

(d) Amit Bhattacharya, Alexion Pharmaceuticals, Inc.

2:00 - 3:30pm Parallel Scientific Sessions

Invited Sessions

1. Novel innovations in survival analysis

Organizer: Arnab Maity, North Carolina State University

Chair: Santu Ghosh, Augusta University (Medical College of Georgia)

Venue: Seminar Room 1

(a) Comparing the accuracy of two diagnostic tests in the analysis of CTC images for detecting colon polyps, Krishna Saha, Central Connecticut State University

(b) Efficient estimation of cure rate frailty models for clustered current status data, Samiran Sinha, Texas A&M University

(c) A general class of cure rate models: identifiability issues and model fitting, Sanjib Basu, University of Illinois, Chicago

(d) On estimation of general index model for survival data, Yanyuan Ma, Pennsylvania State University

2. Recent advances in Bayesian nonparametrics

Organizer: Igor Pruenster, Bocconi University

Chair: Igor Pruenster, Bocconi University

Venue: Seminar Room 2

(a) Bayesian cumulative shrinkage for infinite factorizations, Daniele Durante, Bocconi University

(b) Hidden hierarchical Dirichlet prior for clustering, Giovanni Rebaudo, Bocconi University

(c) A multivariate density regression approach for mixed responses with censored,

constrained, and mixed traits, Raffaella Piccarreta, Bocconi University

(d) Bayesian functional clustering with finite-dimensional discrete random structures, Tommaso Rigon, Bocconi University

3. Small area estimation and its related topic

Organizer: Masayo Hirose, Institute of Mathematics for Industry, Kyushu University

Chair: Shyamal Krishna De, National Institute of Science Education and Research, India

Venue: Seminar Room 3

(a) Estimation and inference for area-wise spatial income distributions from grouped data, Genya Kobayashi, Chiba University

(b) Age-period-cohort (APC) model as the mixed effects model: comparison of the hierarchical APC model and the Bayesian APC mode, Naofumi Sakaguchi, Keio University

(c) Small area estimation from two files linked by probabilistic record linkage, Parthasarathi Lahiri, University of Maryland, College Park

(d) Variable selection problem for linear mixed model under covariate shift, Yuki Kawakubo, Chiba University

4. Data science applications in corporate India and beyond

Organizer: Sourish Das, Chennai Mathematical Institute, India

Chair: Sourish Das, Chennai Mathematical Institute, India

Venue: Seminar Room 4

(a) Analytics & data science at Ford, Shibasish Dasgupta, Global Data Insight & Analytics, Ford Motor Company

(b) Divide and conquer approach to supervised learning using augmented trees, Rajiv Sambasivan, Chennai Mathematical Institute

(c) New kernels for density and regression estimation via randomized histograms, Arusharka Sen, Concordia University

(d) Data science applications in marketing, Kamal Sen, Cogitaas AVA

5. Recent development in Bayesian biostatistics

Organizer: Yang Ni, Texas A&M University

Chair: Yang Ni, Texas A&M University

Venue: Seminar Room 5

(a) Identifying regions of inhomogeneities in spatial processes via an m-ra and mixture priors, Veronica Berrocal, University of California Irvine

(b) Flexible modeling of bivariate longitudinal diagnostic outcome data, Wesley Johnson, University of California Irvine

(c) Some Bayesian models using binary tree ensembles for analyzing time to event data, Purushottam Laud, Medical College of Wisconsin

(d) A Bayesian precision medicine framework for calibrating individualized therapeutic indices in cancer, Veera Baladandayuthapani, University of Michigan

6. Glimpses of innovations in clinical trials

Organizer: Arkendu Chatterjee, Merck and Co.

Chair: Arkendu Chatterjee, Merck and Co.

Venue: Seminar Room 11

(a) Design considerations for immune-oncology dose-finding studies, Cody Chiuzan, Columbia University

(b) A phase ii study design with continuous efficacy monitoring using hierarchical Bayesian framework to borrow information across different indications, Niladri Roy Chowdhury, Novartis Pharma

(c) Application of modulated markov models and modulated renewal process for analyzing clinical trial data with non-proportional hazards, Rianka Bhattacharya, Abbvie, Inc.

(d) Discussant: Arkendu Chatterjee, Merck and Co.

Contributed Sessions

1. Reliability and Industrial Applications

Chair: Brijesh Kumar Singhal, Walmart Labs

Venue: Seminar Room 12

(a) Ramd analysis of a microprocessor system: a case study, Ashish Kumar, Manipal University Jaipur

(b) Estimating number of faults in software using stochastic processes, Madhuri Kulkarni, Savitribai Phule Pune University

(c) Single cycle supply chain coordination model for fuzzy stochastic demand of perishable items, Maruti Bhosale, Shri Shahu Mandir Mahavidyalaya,Pune

(d) Software reliability modeling based on NHPP for error occurrence in each fault with periodic debugging schedule, Sudipta Das, Ramakrishna Mission Vivekananda Educational & Research Institute

(e) Partial backlogging inventory model for perishable items with expected demand, Sandesh Kurade, M.E.S. Abasaheb Garware College

(f) Availability and profit analysis of butter producing system of milk plant using supplementary variable technique, Jitender Kumar, Kurukshetra University

(g) Reliability analysis of non-series-parallel system of (m,n_c,l) order with Weibull failure laws, Suresh Malik, Department of Statistics, M.D.University Rohtak

4:00 - 5:30pm Student Paper Competition Session

1. Student Paper Competition - Theory and Methods

Organizer: Subrata Kundu, George Washington University; Saonli Basu, University of Minnesota

Chair: Saonli Basu, University of Minnesota

Venue: Main Auditorium

(a) Multivariate rank-based distribution-free nonparametric testing using measure transportation, Nabarun Deb, Columbia University

(b) Almost sure convergence of randomized urn models with finite mean, Ujan Gangopadhyay, University of Southern California

(c) Sharp adaptive minimax nonparametric estimation of pure quantum states, Samriddha Lahiry, Cornell University

(d) Comparison of parametric and non-parametric bootstrap for extremes of random variables, Dhrubajyoti Ghosh, Washington University in St. Louis

(e) Adjustments of the nearest neighbor classifier in HDLSS settings, Sarbojit Roy, Indian Institute of Technology, Kanpur

4:00 - 5:30pm Parallel Scientific Sessions

Invited Sessions

1. Novel measurement error corrected approaches to physical activity assessment

   Organizer: Carmen Tekwe, Indiana University Bloomington School of Public Health

   Chair: Samiran Sinha, Texas A&M University

   Venue: Seminar Room 1

   (a) Simex approach to estimation of the sparse conditional functional quantile regression with measurement error, Carmen Tekwe, Indiana University Bloomington School of Public Health

   (b) An assessment of physical activity among children in the us using scalar-on-function regression model with measurement error, Karabi Nandy, University of North Texas Health Science Center

   (c) A Bayesian treatment of the SMIMIC-ME model, Roger Zoh, Indiana University

2. Some recent advances in times series

   Organizer: Hira L. Koul, Michigan State University

   Chair: Hira L. Koul, Michigan State University

   Venue: Seminar Room 2

   (a) Estimators for Markov chains with missing observations, Ursula U. Muller, Texas A&M University / Universitat Hamburg

   (b) Financial point processes: a Bayesian nonparametric approach, T.V. Ramanathan, Savitribai Phule Pune University

   (c) Estimation pitfalls when the noise is not i.i.d., Liudas Giraitis, Queen Mary, University of London

   (d) Non Gaussian models for co-integrating time series, Balakrishna Narayana, Cochin University of Science and Technology

3. Causal Analysis: cutting edge applications and novel techniques

Organizer: Snigdha Panigrahi, University of Michigan

Chair: Juan Shen, Fudan University

Venue: Seminar Room 3

(a) Causal inference in algorithmic fairness, Joshua Loftus, New York University

(b) Selective inference for effect modification, Qingyuan Zhao, University of Cambridge

(c) Learning fair predictors with sensitive subspace robustness, Yuekai Sun, University of Michigan

(d) Discussant: Zhenke Wu, University of Michigan

4. Gravitational wave data analysis

Organizer: Sourish Das, Chennai Mathematical Institute, India

Chair: Sourish Das, Chennai Mathematical Institute, India

Venue: Seminar Room 4

(a) Statistical methods used in the detection and parameter estimation of GW signals, Archana Pai, Indian Institute of Technology Bombay

(b) Overview of gravitational wave data analysis, K. G. Arun, Chennai Mathematical Institute

(c) Interfacing gravitational-wave science and statistics: challenges and opportunities, Parameswaran Ajith, International Centre for Theoretical Sciences, TIFR

5. Modern Bayesian methods for biomedical applications

Organizer: Yang Ni, Texas A&M University

Chair: Yang Ni, Texas A&M University

Venue: Seminar Room 5

(a) Bayesian regularized transfer learning for compositional data, Abhirup Datta, Johns Hopkins University

(b) Bayesian semiparametric longitudinal drift-diffusion mixed models for neural decision-making, Abhra Sarkar, The University of Texas at Austin

(c) Regression analysis of dependent binary data for estimating disease etiology from case-control studies, Zhenke Wu, University of Michigan, Ann Arbor, USA

(d) Bayesian analysis of longitudinal functional data, Donatello Telesca, UCLA

6. Recent development of Bayesian theories

Organizer: Yang Ni, Texas A&M University

Chair: Anirban Bhattacharya, Texas A&M University

Venue: Seminar Room 11

(a) Algorithmic convergence guarantees of variational inference, Debdeep Pati, Texas A&M University

(b) On the beta prime prior for scale parameters in high-dimensional Bayesian regression models, Malay Ghosh, University of Pennsylvania

(c) Bayesian quantile regression with a score likelihood, Naveen Naidu Narisetty, University of Illinois at Urbana-Champaign

7. Advances in Bayesian computation

Organizer: Anindya Bhadra, Purdue University

Chair: Shariq Mohammed, University of Michigan, Ann Arbor

Venue: Seminar Room 12

(a) Bayesian shrinkage for continuous & discrete data - a tale of two cities, Jyotishka Datta, University of Arkansas

(b) Nonparametric mixture modeling on constrained spaces, Vinayak Rao, Purdue University

(c) Bayesian meta-clustering of genomic data, Yingying Wei, The Chinese University of Hong Kong

(d) Bayesian inferences on uncertain ranks and orderings, Deborshee Sen, Duke University

6:00pm Award Ceremony, Cultural Program and Banquet

Venue: Main Auditorium

Sunday, Dec 29, 2019

9:00am - 10:00am Plenary Session

1. Plenary Session 3

   Chair: Amit Bhattacharya, Alexion Pharmaceuticals, Inc.

   Venue: Main Auditorium

   Statistical leadership in practice: Case tudies highlighting ASA, FDA, and ICH initiatives, Lisa LaVange, University of North Carolina, Chapel Hill

10:00am - 11:00am Plenary Session

1. Plenary Session 4

   Chair: Veera Baladandayuathapani, University of Michigan, Ann Arbor

   Venue: Main Auditorium

   Statistical challenges in the analysis of complex responses in biomedicine, Sylvia Richardson, Cambridge Institute of Public Health

10:00am - 12:00pm Honorary Session

1. C R Rao Honorary Session

   Organizer: Tapan Nayak, George Washington University

   Chair: Tapan Nayak, George Washington University

   Venue: Seminar Room 5

   (a) A new all-purpose generic multivariate transformation with applications in multivariate modelling and missing value imputation, Ravindra Khattree, Oakland University

   (b) Analyzing periodic and nearly periodic data: Statistical perspectives, Debasis Kundu, Indian Institute of Technology Kanpur

   (c) TBD, Shailaja Suryawanshi, Merck & Co.

   (d) The Trinity: Professor Mahalanobis, Dr. Rao, and the ISI, Anil Bera, University of Illinois

10:00 - 11:30am Regular Poster Session

Venue: Ground Floor Foyer

1. A Markov model with stratified hazards for analysing clustered youth study data where frailty is present, Jayanta Deb, North-Eastern Hill University, Shillong

2. Quantitative assessment of the risk of invasion by alternanthera philoxeroides in india using species distribution modelling, Jyoti Prajapati, Department of Mathematics, Institute of Chemical Technology, Mumbai

3. Exact distributions of tests of outliers for moore and bilikam family of distributions, Komal Bhoria, University of Delhi

4. Parameter and reliability estimation from log-logistics distribution under progressive type-ii censoring with application in guinea pig data, Kousik Maiti, National Institute of Technology Rourkela

5. Statistical learning with high-dimensional mass cytometry data, Pratyaydipta Rudra, Oklahoma State University

6. Issues in the analyses of large electronic record data: application to national cancer database., Rachana Lele, University of Louisville

7. On nearly-unbiased estimators of a Langevin concentration, Shreyashi Basak, IIT Kharagpur

8. Estimation and testing procedures for the reliability functions of Kumarswamy-g distribution based on censorings, Aditi Chaturvedi, Babasaheb Bhimrao Ambedkar University, Lucknow

9. Efficiency of the zero-inflated Poisson model and the hurdle model to handle responses with excess zero counts, Amila Poddar, Parexel International (INDIA), Hyderabad

10. Optimal phase ii control limits of t_r-chart for monitoring high-yield processes, Amita Baranwal, Banaras Hindu University

11. Inference for LOMAX competing risk model with partially observed failure causes under generalized progressive hybrid censoring., Amulya Kumar Mahto, Indian Institute of

Technology, Patna

12. Statistical analysis of malnutrition and its underlying causes, Ananya Pisal, Savitribai Phlue Pune University

13. A simple probabilistic proof for the alternating convolution of the central binomial coefficients, Ashok Kumar Pathak, Central University of Punjab, Bathinda

14. Credit card fraud detection, Binod Jung Bogati, Tribhuvan Univeristy

15. On progressively censored competing risks data from Gompertz distribution, Chandrakant Lodhi, IIT Patna

16. Study of sea surface temperature over the globe using AMO index, Jyoti Bhogal, Savitribai Phule Pune University

17. Modeling the impact of urbanization on biodiversity, Kshitija Bagul, Department of Statistics, Savitribai Phule Pune University.

18. Estimating population coefficient of variation using a single auxiliary variable in simple random sampling, Madhulika Mishra, Banaras Hindu University

19. Some generalized Poisson processes and their systems of ode's, Mostafizar Khandakar, Indian Institute of Technology Bhilai

20. Parametric bootstrap based test for detecting changes in marriage patterns, Neela Gulanikar, Savitribai Pule Pune University, Pune, India

21. Two - stage and sequential procedures for estimation of powers of parameter of a family of distributions, Neeraj Joshi, University of Delhi

22. A piece-wise hazard analysis for under-five child mortality, Rakesh Saroj, Banaras Hindu University

23. Analysis of premier league: analyzing playing styles through statistical tools & modeling the probability of success, Raunak Shevade, Savitribai Phule Pune University

24. Gold, inflation, gdp and lending rate: An interesting relation, Ravi Sayyaparaju, Andhra University College of Engineering

25. Modelling of dry and wet spells in Pune for Indian summer monsoon rainfall, Rutuja Kore, Department of Statistics, Savitribai Phule Pune University, Pune

26. Estimation and testing procedures for the reliability characteristics of Kumaraswamy-g distributions based on the progressively first failure censored sampling, Shubham Saini, University of Delhi

27. Bayesian inference for merged panel autoregressive model, Varun Agiwal, Central University of Rajasthan

28. Semiparametric causal mediation modeling of semi-competing risks, Ju-Sheng Hong, Institute of Statistical Science, Academia Sinica, Taiwan

29. TBD, Amalraj Nagaraj, DF

11:30am - 1:00pm Panel Discussion

1. Why leadership matters in quantitative disciplines

   Organizer: Amit Bhattacharya, Alexion Pharmaceuticals, Inc.

   Moderator: Amit Bhattacharya, Alexion Pharmaceuticals, Inc.

   Venue: Main Auditorium

   Speakers:

   (a) Lisa LaVange, UNC Chapel Hill

   (b) Sastry Pantula, California State San Bernardino's College of Natural Sciences

   (c) Pandu Kulkarni, Biometrics and Advanced Analytics, Eli Lilly

   (d) Sujit Ghosh, North Carolina State University

(e) Ajay Sathe, Cytel India

11:30am - 1:00pm Parallel Scientific Sessions

Invited Sessions

1. Advances in data modeling, meta-analysis, and machine learning methods

Organizer: A.M.M. Shahiduzzaman Quoreshi, Blekinge Institute of Technology; Arvind Shah, Merck; Taps Maiti, Michigan State University

Chair: Arvind Shah, Merck

Venue: Seminar Room 1

(a) Modelling high frequency count data for social media application, Shahiduzzaman Quoreshi, Blekinge Institute of Technology

(b) Application of meta-analysis in estimating the prevalence of depression among the elderly population in India, Mohan Bairwa, IIHMR University, Jaipur, India

(c) Spatial analysis of pm2.5 in Taiwan incorporating two types of measurements, Hsin-Cheng Huang, Institute of Statistical Science, Academia Sinica

(d) Sparse identification and estimation of large-scale vector autoregressive moving averages, Sumanta Basu, Cornell University

2. Bayesian analysis of high dimensional complex data

Organizer: Bani Mallick, Texas A&M University

Chair: Shariq Mohammed, University of Michigan, Ann Arbor

Venue: Seminar Room 2

(a) Bayesian monotone single-index for bounded response with functional covariates, Debajyoti Sinha, Florida State University

(b) Learning semiparametric regression with missing covariates using Gaussian process models, Dipak Dey, University of Connecticut

(c) A divide-and-conquer bayesian approach for spatio-temporal varying coefficient modeling, Rajarshi Guhaniyogi, University of California, SC

(d) High-dimensional multivariate geostatistics: a conjugate Bayesian matrix-normal

approach, Sudipto Banerjee, UCLA

3. Analysis of big remote sensing imagery : Tools and techniques

Organizer: Pradeep Mohan, SAS Institute Inc.

Chair: Pradeep Mohan, SAS Institute Inc.

Venue: Seminar Room 3

(a) Mapping surface water globally using remote sensing data: a physics-guided data science approach, Anuj Karpatne, Virginia Tech

(b) Analyzing hyperspectral data using support vector data description, Arin Chaudhari, SAS Institute Inc

(c) Four geo-computational challenges for rapid assessment of post-disaster areas using earth observation (eo) data, Surya Durbha, Indian Institute of Technology Bombay

(d) Discussant: Raju Vatsavai, North Carolina State University

4. Statistical advances in personalized medicine

Organizer: Radha Railkar, Merck & Co.

Chair: Shibasish Dasgupta, Ford Motor Company

Venue: Seminar Room 4

(a) Bayesian hierarchical modeling and biomarker cutoff identification in basket trials, Guosheng Yin, University of Hong Kong

(b) HASS: hybrid algorithm for subgroup search in precision medicine via ADMM and EM algorithms, Peter Song, University of Michigan

(c) A flexible Bayesian method to individualized treatment allocation, Saptarshi Chatterjee, Eli Lilly and Company

(d) Learning directed acyclic graphs to identify potential markers driving response to chemotherapy in ovarian cancer based on time-course proteomics data, Shrabanti Chowdhury, Icahn school of Medicine at Mount Sinai

5. Statistical inference for network structured data

Organizer: Soumendu Sundar Mukherjee, Indian Statistical Institute, Kolkata

Chair: Shyamal Krishna De, National Institute of Science Education and Research, India

Venue: Seminar Room 11

(a) When random initializations help: a study of variational inference for community detection, Purnamrita Sarkar, University of Texas, Austin, Dept of Statistics and Data Science

(b) On the CUSUM changepoint estimator for network data, Sharmodeep Bhattacharyya, Oregon State University

(c) Superimposed block models, higher order structures and small-world property in networks, Subhadeep Paul, The Ohio State University

(d) Overlapping clustering models and one class SVM to bind them all, Deepayan Chakrabarti, University of Texas, Austin

6. Advances in sequential methodologies

Organizer: Sudeep Bapat, University of California, Santa Barbara

Chair: Sudeep Bapat, University of California, Santa Barbara

Venue: Seminar Room 12

(a) Data arising from destructive samples: the case of Spina bifida, Marepalli Rao, University of Cincinnati

(b) Fractional Poisson models and their one dimensional distributions, Kuldeep Kumar Kataria, Indian Institute of Technology Bhilai

(c) Sequential point estimation procedures for the parameter of a family of distributions, Ajit Chaturvedi, University of Delhi

(d) A new nonparametric test for two-sample location problem based under ranked set sampling, Sunil Mathur, Texas A&M University-Corpus Christi

1:00 - 2:00pm LUNCH

2:00 - 3:30pm Parallel Scientific Sessions

Invited Sessions

1. Statistical learning methods in healthcare

   Organizer: Mousumi Banerjee, University of Michigan

   Chair: Mousumi Banerjee, University of Michigan

   Venue: Seminar Room 1

   (a) Using real world data for research studies with focus towards changing clinical practice, Madhu Mazumdar, Icahn School of Medicine at Mount Sinai

   (b) Hierarchical multivariate Poisson regression for characterizing the diffusion of new drugs, Sharon-Lise Normand, Harvard Medical School

   (c) A machine learning based tandem approach to predict extubation failure in pediatric intensive care unit, Mousumi Banerjee, University of Michigan

2. Model based clinical drug development: The present and future

   Organizer: Satrajit Roychoudhury, Pfizer USA

   Chair: Satrajit Roychoudhury, Pfizer USA

   Venue: Seminar Room 2

   (a) Application of cross-validation in statistical modeling for clinical trials, Satya (Ravi) Siddani, Novartis Pharmaceuticals Corporation

   (b) Review on model diagnostics for incomplete data, Arkendu Chatterjee, Merck and Co.

   (c) A case study of non-inferiority Bayesian design with a meta-analytic prior to leverage historical data, Arunava Chakravartty, Novartis Pharmaceuticals Corporation

   (d) Discussant: Amarjot Kaur, Merck Research Labs

3. Multiple hypothesis testing

   Organizer: Shyamal Krishna De, National Institute of Science Education and Research, India

Chair: Soumendu Sundar Mukherjee, Indian Statistical Institute, Kolkata

Venue: Seminar Room 3

(a) Empirical adjustments to meta-analysis for large-scale simultaneous hypothesis testing in genomic experiments, Sinjini Sikdar, Old Dominion University

(b) Adapting BH to one- and two-way classified hypotheses, Shinjini Nandi, New York University School of Medicine

(c) Protecting replicability in the presence of auxiliary covariates, a multiple testing approach, Pallavi Basu, Indian School of Business

(d) Controlling generalized error rates of multiple testing in sequential trials, Shyamal De, National Institute of Science Education and Research, India

4. Bayesian methods for high-dimensional data with complex structures

Organizer: Yang Ni, Texas A&M University

Chair: Rajarshi Guhaniyogi, University of California, SC

Venue: Seminar Room 4

(a) Sparsity selection in high-dimensional Bayesian vector autoregressive models based on a pseudo-likelihood approach, Kshitij Khare, Department of Statistics, University of Florida

(b) Some recent developments in the supervised generalized symmetric tensor modeling, Sharmistha Guha, Duke University

(c) Bayesian integrative analysis method with incorporation of grouping information, Thierry Chekouo, University of Calgary

5. Reliability theory and its applications

Organizer: Amarjit Kundu, Raiganj University

Chair: Amarjit Kundu, Raiganj University

Venue: Seminar Room 12

(a) On relative ageing of coherent systems, Nil Kamal Hazra, Indian Institute of Technology Jodhpur

(b) Reliability study of series and parallel systems of heterogeneous component lifetimes following proportional odds model, Pradip Kundu, Birla Institute of Technology Mesra

(c) Optimum life test plan for censored Weibull distributed products sold under general rebate warranty, Shovan Chowdhury, Indian Institute of Management Kozhikode

(d) Comparison of two parallel systems under random shock, Amarjit Kundu, Raiganj University

Contributed Sessions

1. Probability and Mathematical Statistics

Chair: Sayantee Jana, Indian Institute of Management, Nagpur

Venue: Seminar Room 5

(a) On limit laws for normalized order statistics., Sreenivasan Ravi, University of Mysore

(b) Revisiting non-regularity of generalized exponential distribution through product of spacings, Suparna Basu, University of Burdwan

(c) Residual stochastic precedence order, Amit Kumar Misra, Babasaheb Bhimrao Ambedkar University Lucknow

(d) The containment profile of hyperrecursive trees, Srinivasan Balaji, George Washington University

(e) Time dependent analysis of an m/m/? queueing system with catastrophes, Gulab Singh Bura, Banasthali Vidyapith Rajasthan

(f) Study of quantile version of Renyi entropy of order statistics, Vikas Kumar, UIET, M. D. University Rohtak

2. Data Science

Chair: Sanjeev Kumar Tomer, Banaras Hindu University

Venue: Seminar Room 11

(a) The ACCELOM genomic data science platform, Raja Appuswamy, Eurecom

(b) Can controlling for compliance in a data with non-response under different missing data mechanism improve the estimate, a comparison and deep dive., Sarfaraz Sayyed, Novartis Healthcare Pvt Ltd

(c) Role and essence of PKPD data, Sanjeeva Thalla, Genpro Life sciences India Pvt Ltd

(d) The r- thing in ir: methodological investigation into teaching of international relations, Ambrish Dhaka, Jawaharlal Nehru University

(e) Enhancing knowledge and innovations in the shifting world of statistics and data science, Uma Govindaraj, PSG College of Arts & Science

(f) Beyond predictions: actionable and interpretable rules from machine learning models, Srikanth Komala Sheshachala, Sling Media

(g) Application of multiple testing procedures for assessing multiple comorbidities in big health-administrative data, Sayantee Jana, Indian Institute of Management, Nagpur

2:00 - 5:00pm Memorial Session

1. P Bhimasankaram Memorial Session

Organizer: Bikas Sinha, Indian Statistical Institute, Kolkata

Chair: Bikas Sinha, Indian Statistical Institute, Kolkata

Venue: Main Auditorium

(a) Improving linear quantile regression for replicated data, Debasis Sengupta, Indian Statistical Institute

(b) Statistical methods for cost-effectiveness analysis: A brief review, Thomas Mathew, University of Maryland Baltimore County

(c) De la Garza phenomenon and linear regression, Bikas Sinha, Indian Statistical Institute

(d) Applications of incomplete block designs in agricultural research, Rajender Parsad, ICAR-IASRI

(e) Waiting time until success, Jyotirmoy Sarkar, Indiana University-Purdue University Indianapolis

4:00 - 5:35pm Parallel Scientific Sessions

Invited Sessions

1. Statistical considerations in data privacy

Organizer: Pallavi Chitturi, Temple University

Chair: Pallavi Chitturi, Temple University

Venue: Seminar Room 1

(a) Sub-linear privacy preserving search and record linkage over unsecure servers., Anshumali Shrivastava, Rice University

(b) Private stochastic convex optimization with optimal rates (virtual presentation), Rebecca Stoerts, The Ohio State University

(c) Discrete choice experiments in network security and data privacy, Pallavi Chitturi, Temple University

2. Some innovative applications in high-dimensional data analysis

Organizer: Subharup Guha, University of Florida

Chair: Subharup Guha, University of Florida

Venue: Seminar Room 2

(a) Strong privacy-preserving data collection using triple matrix-masking, Samuel Wu, University of Florida

(b) Simultaneous prediction intervals for high-dimensional vector autoregressive model, Sayar Karmakar, University of Florida

(c) Mediation analysis for zero-inflated mediators with applications to microbiome data, Zhigang Li, University of Florida

(d) Bayesian nonparametric differential analysis for dependent multigroup data with application to DNA methylation analyses, Subhararup Guha, University of Florida

3. Statistical remedies for late separation of survival curves in clinical trials

Organizer: Suvajit Samanta, Abbvie Inc

Chair: Suvajit Samanta, Abbvie Inc

Venue: Seminar Room 3

(a) Dilemma in selecting analytical methods under non-proportional hazards, Amarjot Kaur, Merck Research Labs

(b) Robust design and analysis of clinical trial with non-proportional hazards: a straw man guidance from cross-pharma working group, Satrajit Roychoudhury, Pfizer Inc.

(c) Application of weighted log-rank test in clinical trial, Suvajit Samanta, Abbvie Inc

(d) Discussant: Sanjib Basu, University of Illinois, Chicago

4. Data science in climate, monsoons, and beyond

Organizer: Ansu Chatterjee, University of Minnesota

Chair: Ansu Chatterjee, University of Minnesota

Venue: Seminar Room 4

(a) Improvements in the prediction of monsoon characteristics with physics guided data driven models, Subimal Ghosh, IIT Bombay

(b) Identifying spatial and temporal patterns of climatic variables using Markov random field, Adway Mitra, IIT Kharagpur

(c) Towards understanding of single and compound flood extremes in the anthropocene, Poulomi Ganguli, Indian Institute of Technology Kharagpur

(d) Different methods to improving returns from search engine marketing using domain expertise, google adwords, clustering and text mining – a joint teaching effort between data sciences and marketing departments of marshall school of business, Arif Ansari, University of Southern California

Contributed Sessions

1. Bayesian Statistics

Chair: Suparna Basu, University of Burdwan

Venue: Seminar Room 5

(a) Estimating parameters for multi-state series and parallel systems having random degradation rates using Bayesian gmm, Leena Kulkarni, NMIMS's Sunandan Divatia School of Science

(b) Robust Bayesian analysis of lifetime data under competing risk model, Sanjeev Kumar Tomer, Banaras Hindu University

(c) Minimax restricted generalized Bayes estimation for a spatial autoregressive model, Anoop Chaturvedi, University of Allahabad

(d) Structural break in disturbances precision and autoregressive parameter in dynamic model: a Bayesian approach, Arvind Shrivastava, Reserve Bank of India

Monday, Dec 30, 2019

9:00am - 10:20am Special Invited Session

1. Special Invited Session 3

   Chair: Amarjot Kaur, Merck Research Labs

   Venue: Main Auditorium

   (a) Bayesian leveraging of historical control data for a clinical trial with time-to-event endpoint, Satrajit Roychoudhury, Pfizer USA

   (b) Beyond black boxes: Infusing structure into deep earning, Anima Anandkumar, California Institute of Technology

11:30am - 1:00pm Parallel Scientific Sessions

Invited Sessions

1. Advances in random matrix theory

   Organizer: Debashis Paul, University of California, Davis

   Chair: Debashis Paul, University of California, Davis

   Venue: Main Auditorium

   (a) Spectra of adjacency and Laplacian matrices of inhomogeneous Erdos-Renyi graphs, Arijit Chakrabarty, Indian Statistical Institute, Kolkata

   (b) Spectral estimation for high-dimensional linear processes, Jamshid Namdari, University of California Davis

   (c) Asymptotics of large autocovariance matrices, Monika Bhattacharjee, IIT Bombay

   (d) On spectral distribution estimation by exponential tilting, Sanjay Chaudhuri, National University of Singapore

2. Non-parametric methods and learning theory

   Organizer: Bharath Sriperumbudur, The Pennsylvania State University

   Chair: Shyamal Krishna De, National Institute of Science Education and Research, India

Venue: Seminar Room 1

(a) Some new insights on transfer learning, Samory Kpotufe, Columbia University

(b) Kernel methods for distribution representation, Arthur Gretton, Gatsby Computational Neuroscience Unit

(c) Berry-Esseen bounds for stochastic gradient descent, Krishnakumar Balasubramanian, University of California, Davis

(d) Orlicz Fourier features, Zoltan Szabo, CMAP, Ecole Polytechnique

3. Statistical analysis of data with complex spatial and network structures

Organizer: Soutir Bandyopadhyay, Colorado School of Mines

Chair: Soutir Bandyopadhyay, Colorado School of Mines

Venue: Seminar Room 2

(a) Spatial analysis, a big picture: from the big bang to human civilization to spread of cholera to PCM to the frontier of spatial econometrics., Anil Bera, University of Illinois at Urbana-Champaign

(b) On relationships between spatial extremes, Snigdhansu Chatterjee, University of Minnesota

(c) Identification of clusters in space based on lattice data, Jun Zhu, University of Wisconsin - Madison

(d) Nonparametric regression with network data, Swati Chandna, Birkbeck University of London

4. Novel methods in biostatistics

Organizer: Aditi Sapre, Merck

Chair: Shibasish Dasgupta, Ford Motor Company

Venue: Seminar Room 3

(a) Some strategies for defining non-inferiority bounds in active-controlled trials with no placebo-controlled data for the active comparator, Aditi Sapre, Merck

(b) Sociolinguistics and the diffusion of the Indo-Arabic numerical system in antiquity, Craig Molgaard, College of Public Health, University of Arkansas for Medical Sciences

(c) Novel statistical methods for selecting differentially expressed genes in microarray experiments, N. Rao Chaganty, Old Dominion University

5. Bayesian statistical applications in management

Organizer: Karthik Sriram, Indian Institute of Management Ahmedabad

Chair: Karthik Sriram, Indian Institute of Management Ahmedabad

Venue: Seminar Room 4

(a) Bayesian stochastic volatility model for dynamic leverage effect, Sujay Mukhoti, Indian Institute of Management Indore

(b) Bayesian methods in statistical ecology, Soumen Dey, Indian Statistical Institute, Kolkata

(c) Inference based on progressive type-i interval censored data with competing risks, Soumya Roy, Indian Institute of Management Kozhikode

(d) A new perspective from a Dirichlet model for forecasting outstanding liabilities of nonlife insurers, Karthik Sriram, Indian Institute of Management Ahmedabad

6. Recent developments in statistical methods for health sciences

Organizer: Santu Ghosh, Augusta University (Medical College of Georgia)

Chair: Satrajit Roychoudhury, Pfizer USA

Venue: Seminar Room 5

(a) Modelling zero inflated disease data: a case study of Indian dengue., Siuli Mukhopadhyay, IIT Bombay

(b) On the effect of prior distribution in Bayesian non-inferiority, Arpita Chatterjee, Georgia Southern University

(c) Some aspects of SMART design: methodological developments and an application in non-inferiority trial, Samiran Ghosh, Wayne State University School of Medicine

(d) Smoothed bootstrap simultaneous false coverage rate-adjusted confidence intervals for

selected parameters, Santu Ghosh, Augusta University (Medical College of Georgia)

7. Nonparametric procedures and applications

Organizer: Digambar Shirke, Shivaji University, Kolhapur

Chair: Digambar Shirke, Shivaji University, Kolhapur

Venue: Seminar Room 11

(a) On testing the load sharing effect in a two component parallel system, Santosh Sutar, Shivaji University, Kolhapur

(b) A nonparametric control chart for process dispersion based on sequential sampling, Shashibhushan Mahadik, Shivaji University, Kolhapur

(c) Depth based graphical tool and related tests for multivariate multi-sample location problem, Somanath Pawar, Shivaji University, Kolhapur

(d) Effect of autocorrelation on multivariate synthetic control chart, Vikas Ghute, P.A.H. Solapur University Solapur (MS) India

Contributed Sessions

1. Survival Analysis

Chair: Vishal Deo, University of Delhi

Venue: Seminar Room 12

(a) A bivariate inverse Weibull distribution and its application in complementary risks model, Shuvashree Mondal, ISI Kolkata

(b) Sexwise life table of 1951 birth cohort of urban India and Assam, Bagsmrita Bhagawati, B.H. College, Howly

(c) Estimation and prediction for the generalized half normal distribution under hybrid censoring, Farha Sultana, ISI Kolkata

(d) Regression of censored outcomes: a pseudo-value approach, Sandipan Dutta, Old Dominion University

(e) Estimation of stress strength reliability for a class of life time distribution, Mayank Vaish, Central University of Rajasthan

(f) Current status data with computing risks in survival analysis, Ramaiyan Elangovan, Department of Statistics, Annamalai University

1:00 - 2:00pm LUNCH

3:30 - 7:30pm Workshop

1. Workshop on Quantile Regression

   Course Facilitators: Professor Roger Koenker, University of Illinois at Urbana Champaign and University College London; Professor Lan Wang, University of Minnesota; Assistant Professor Naveen N. Narisetty, University of Illinois at Urbana-Champaign

   Venue: Seminar Room 1