

**VPM'S B. N. BANDODKAR COLLEGE OF SCIENCE (AUTONOMOUS)
THANE (W)**

DEPARTMENT OF MATHEMATICS AND STATISTICS

**NATIONAL CONFERENCE ON APPLIED MATHEMATICS AND
STATISTICS-2023**

Report

Date: 13th & 14th, January 2023.

Time: 9:30 a.m. to 5:30 p.m.

First Day of NCAMS-2023.

National Conference on Applied Mathematics and Statistics-2023 was organized by Department of Mathematics and Department of Statistics of B.N. Bandodkar College of Science (Autonomous) Thane (w) in collaboration with University of Mumbai on 13th and 14th January, 2023 at Thorle Bajirao Peshwa Auditorium, supported by State Bank of India. This Conference was comprised of invited talks, Oral Paper Presentation and Poster Competition. Around 186 Staff & Students participated in this conference.

The dignitaries present on day 1 for the conference were Mr. Trivikram Bendre (Treasurer of Vidya Prasarak Mandal, Thane), Principal Dr. Moses Kolet, Special Guest Mr. Basudev Banerjee (Applied Statistician with two years full time training from Indian Statistical Institute (ISI)), Dr. Asha Jindal (Professor and Head in Statistics Department at Kishinchand Chellaram College), Dr. Sudhakar Agarkar (Dean, VPM's Academy of International Education & Research, Thane), Dr. Annapurna Shankarnaryanan (Associate Professor of Statistics Department, St. Xavier College Autonomous, Mumbai).

Inaugural session of the conference was preceded by Principal Dr. Moses Kolet. Inauguration and release of e- proceeding of NCAMS-2023 commenced by special guest Mr. Basudev Banerjee followed by welcome and introductory speech which was delivered by organizing secretary Mrs. Minal Wankhede.

Eminent personalities from research areas in Mathematics and Statistics shared their views with the audience. Gathering was graced by talk of special guest Mr. Basudev Banerjee. He talked on topic: TQM (Total Quality Management) and it's Application in Educational institutions. In his talk, he covered the detail explanation of TQM, three major components of TQM, quality of product, quality characteristics, sampling and estimation process and application of trend analysis by moving average method, Histogram, Pareto Analysis, Fish bone or Ishikawa Analysis in Educational Institutions. He concluded his talk by talking about parameters for students learning and process outcomes.

The 2nd plenary session was started with key note address delivered by eminent speaker Dr. Asha Jindal on topic GGSTATSPLOT: Visualization with Statistical Analysis. She emphasized her talk on topic by giving an example of research paper of Dr. Indrajeet Patil. In her talk, she delivered

the basic definition of GGSTATSPLOT, two sample's analysis (parametric and non-parametric test) by using ggstatsplot in R-studio (R- Programming Language), along with sample testing, she demonstrated examples of code of sample testing in R-Studio using ggstatsplot. The inaugural session was concluded at 11:50 am and vote of thanks given by organizing secretary Ms. Sumaiya Shaikh.

The 3rd plenary session was conducted by Dr. Sudhakar Agarkar on topic: Mathematics for socio-economic development. He threw light on Mathematics and areas of research, by considering an example of literacy rate of India 1951-2011, construction of road using mathematics, can maths resolve the discrepancy in health sector, mathematics in artificial intelligence, GDP growth, Golden Ratios in beauty. The talk was highly appreciated by the audience.

The post lunch session was initiated with the informative lecture delivered by guest speaker Dr. Annapurna Shankarnarayanan on topic: An overview of Multivariate Analysis. In her talk, she shared her views on multivariate analysis, objective of multivariate, ways to organize a data in vectors, matrix and arrays, Multivariate data visualization, Scatter Plot Matrix, Star Plots, Principal Component Analysis (PCA), Factor Analysis, and Discriminate Analysis. She also quoted, the world is generally a multivariate.

Further a Technical session was conducted in which 3 Oral Paper Presentations was done and it's was chaired by Dr. Shilpa Gondhali (Associate Professor, BITS Pilani, Goa) & Dr. Asha Jindal. And the first day of conference ended with cultural activities and formal vote of thanks proposed by Ms. Pradnya Barge (TYBSc Mathematics Student).

Second Day of NCAMS-2023

The dignitaries present on day 2 of the conference were Principal Dr Moses Kolet, Vice Principal Mrs. Moitreyee Saha, Dr. Nithya Narayana (Retd. Professor, NES Ratnam college), Dr. Chhaya Lande (Professor, Symbiosis Institute of Technology, Pune), Dr. Anjum Ara Ahmad (Professor of Statistics, Rizvi College, Mumbai), Dr. Santosh Gite (Professor, University of Mumbai, Mumbai), Dr. Vijay Sarode (Principal, GM Vedak College of Science, Raigad), Dr. Shripad Garge (Assistant Professor, Indian Institute of Technology Bombay, Powai, Mumbai), Dr. Manisha Acharya (Vice Principal, Maharasi Dayanand College, Mumbai), Mr. Shirish Govind Joshi (Ex. HR VPM, Thane) and Dr. Shilpa Gondhali (Assistant Professor, BITS Pilani, Goa).

The second day of conference began with invited talk by guest Dr. Nithya Naryana on topic: Maths Matters in which she highlighted importance of Mathematics by giving various examples of real life application of mathematics. She explained the problem of people visiting clubs using dominated eigenvalue and eigenvector, matrix-tree theorem, Principal Component Analysis. Followed by invited talk by Dr. Chhaya Lande on topic: Mathematical Modelling of water table fluctuation in various geological situation in which she talked on statistics of water distribution, importance of ground water, surface-ground water interconnection, planning Activity for saving water, Mathematical model, analytical model, numerical method, flow equation and linearization. She developed a hydrological model and explained an analytical solution of one dimensional linearized Boussinesq equation.

Further guest speaker Dr. Anjum Ara Ahmad delivered a talk on use of multivariate multiple linear regression model in statistical analysis in which she emphasized her talk on measures for accessing statistical significance, Roy's Greatest Characteristics Root(RGCR), Wilk's Lambda, Pillai's Criterion, Hotelling's Trace, Statistical software, Testing at pooled level, and Testing at state level. She explained this all with her research paper on the same topic. Then continued by talk of speaker Dr. Santosh Gite on topic Regression and Classification in Machine Learning: Challenges and Research Directions where he talked on types of data, machine learning and its types. He focused his talk on supervised learning which includes regression and classification analysis followed by explanation of logistics regression, linear Discriminant Analysis, Naïve Bayes Theorem and simple & Multiple Linear Regression.

Post lunch session was initiated with informative and inspiring talk by Dr. Vijay Sarode on topic: International travel grants in which he told how failure is not ending, and also about different grants and it's criteria such as UNAIDS, IUNESCO, Wellcome trust, ford foundation, full bright scholarship, IASP, and many more. There was a technical session after the invited talks in which 3 oral papers were presented and it's was chaired by Dr. Manisha Acharya and it was followed by poster presentation Competition in which 16 posters were presented & Judged by Dr. Shilpa Gondhali, Dr. Anjum Ara Ahmed, Ms. Divya Nair, Ms Sangeeta patil.

After that, a valedictory address was given by Dr. Shripad Garge on topic: Application of Division Algebra and Wireless Communications in which he gave an explanation of rank criterion & special case by almighty Bharat Seturaman and description of division algebra.

Report of the two day conference was read by Mr. Sanchin Gondke (Assistant Professor, Mathematics Department). Three participants namely Mrs. Sangita Patil from Model College, Dr. Mrs. A. Madhavi from KES Shroff College and JRF research fellow Mr. Arpit Raikwar gave their valuable feedback during the feedback session. Principal Dr. Moses Kolet Sir gave concluding remarks at the end.

This two day national conference (NCAMS-2023) successfully ended with an official vote of thanks proposed by Ms. Tanzim Shaikh (Assistant professor, Statistics Department) along with Mrs. Minal Wankhede (Head, Mathematics Department).



