

Proceedings of One Day Seminar on Applied Statistical Techniques

Co- Sponsored by

Kerala State Council for Science, Technology & Environment
(KSCSTE)



Organized by

Centre for Research in Mathematical Sciences,
St. Joseph's College (Autonomous], Irinjalakuda

In Association with

Old Students Forum, Department of Statistics CUSAT

Speakers

Prof. P G Sankaran

Pro-Vice Chancellor,
Cochin University of Science and Technology

Prof. S. M. Sunoj

Department of Statistics
Cochin University of Science and Technology



KERALA STATE COUNCIL FOR SCIENCE, TECHNOLOGY AND ENVIRONMENT

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KSCSTE an autonomous Institution of Govt. of Kerala is committed for the promotion of Science, Education, Research and Scientific temper in the State. KSCSTE prepares the road map for development of the State through advancements in scientific research and innovation in technologies. Achieving excellence in basic research, academia-industry interactions, strengthening indigenous technologies initiatives, and building strong infrastructure and developing a high quality science education system in the state are our targeted goals. There are Seven R&D centres under the umbrella of the Council to coordinate Research and Development activities in the specific mandated domains.

- *Jawaharlal Nehru Tropical Botanical Garden & Research Institute (JNTBGRI), Palode*
- *Centre for Water Resources Development & Management (CWRDM), Kozhikode*
- *Kerala Forest Research Institute (KFRI), Thrissur*
- *National Transportation Planning & Research Centre (NATPAC), Thiruvananthapuram*
- *Kerala School of Mathematics, Kozhikode*
- *Srinivasa Ramanujan Institute for Basic Sciences (SRIBS), Kottayam*
- *Malabar Botanical Garden & Institute of Plant Sciences (MBG& IPS), Kozhikode*

The major Schemes & Programmes of Council headquarters, located in the State Capital, Thiruvananthapuram are as follows:

KSCSTE FELLOWSHIPS, SCHOLARSHIPS & AWARDS

- *KSCSTE Research Fellowships*
- *Post-Doctoral Fellowships*

- *Emeritus Scientist Scheme for senior Scientists*
- *Fellowships in Science writing & Science Communication*
- *Prathibha Scholarships for Students opting Science learning*
- *Kerala Shastra Puraskaram for eminent scientists*
- *Kerala Science Literature Award*

NEW PROGRAMMES

- *Partnering Academic and Industrial Research (PAIR)*
- *Crafting Young Scientists of Tomorrow (CRYSTAL) programme*
- *Science Education Centre*

FINANCIAL GRANT FOR RESEARCH PROJECTS

- *Science Research Scheme*
- *Engineering & Technology Programme*
- *Ecology & Environment Programme*
- *Intensive programmes for Innovators of Rural Technology and Biotechnology*
- *SARD Scheme focusing activity specific areas*
- *Technology Development and Adaptation Programme*
- *Back to Lab Programme for Women*

PROMOTIONAL PROGRAMMES

- *Kerala Science Congress*
- *Vocational skill oriented reinstated training*
- *Tech Fest, Green Corps, Eco Clubs*
- *Sasthraphosini & Sasthra Bhodhini*
- *SPYTIS Project for School and College Students*
- *Patent Information Centre*
- *Scientific Management Training*
- *Rural innovators Meet*

POPULARISATION PROGRAMMES

Science Popularization Programmes
Support for Seminar, Symposia and Workshop
National Science Day, National Technology Day, World Environmental Day, Ozone Day etc.

About the Department

Department of Mathematics, St. Joseph's College (Autonomous), Irinjalakuda, presently Centre for research in Mathematical Sciences, affiliated to University of Calicut started functioning from the year 1964 with Statistics as one of the subsidiary subject in B. Sc. Level. As part of giving global level academic exposure and to impart knowledge in practical applications of Mathematics and Statistics, a regular feature among the activities include International, National, State-level Seminars/ Workshops/ Invited Talks funded by international/national organisations such as IMU, Germany, NBHM(DAE), DST, NCM, Science Academies, UGC and KSCSTE. Department also conducts Certificate courses based on Statistical Techniques/ Applied Mathematics to inculcate interest in the areas. Students are given motivational exposure through industry oriented projects leading to several options for higher education/ employment.



Academic Report

A workshop/seminar on Applied Statistical Techniques was organized in St. Joseph's College (Autonomous) Irinjalakuda, Kerala on 30/11/2017 with the support of Kerala State Council for Science, Technology & Environment (KSCSTE) and Old Students Forum, CUSAT, Cochin. 240 students and 22 faculty participated in the seminar.

Inaugural Session



The one day seminar /workshop inaugurated in the Auditorium, St.Joseph's college Irinjalakuda by Pro. Vice Chancellor Professor P.G.Sankaran, CUSAT. Dr.Sr. Lilly P L (Principal, St. Joseph's College, Irinjalakuda) presided over the meeting, Mr. Anand Menon Former General Manager, KSE Pvt Ltd felicitated and Dr. N R Mangalambal(Head, Department of Mathematics, St. Joseph's College, Irinjalakuda) offered a formal welcome.

Report on the Seminar

Statistical techniques is an effective tool to solve many industry related problems and other such areas. This workshop /seminar introduced basics and advanced aspects of this techniques along with major applications and recent developments. The speakers established the importance of the subject statistics and its applications in our day to day life.

Schedule

Day	Date	10.00	11.00	11.30	1.00	1.30	3.30
Thur	30-11	PGS	Tea	PGS	Lunch	SMS	Tea

Report of Course in Brief

1. Prof. P G Sankaran

Pro-Vice Chancellor, CUSAT



Prof. P. G. Sankaran talked on the topic, Statistical Inference:

- Population: The totality of elements which are under discussion and about which information is desired will be called the target population.
- Inductive Approach: Statistical inference is an inductive inference
- Estimation: Estimate unknown parameter (s)/characteristics of the population based on sample data

- Tests of Hypotheses: Test statement about unknown parameter (s)/ characteristics of the population
- Non parametric Inference: Calculate an interval for unknown population characteristic with certain confidence level

2. Prof. S. M. Sunoj

Department of Statistics, CUSAT



ProF. S.M. Sunoj gave a class on the topic, multivariate analysis

Nominal : the presence or absence of some characteristic. Gender is a dichotomous nominal variable.

Ordinal : With the ordinal variable, there is an ordering. An art teacher might look at student drawings and rank them from the most to the least creative, say highly creative, somewhat creative and uncreative.

Interval or Ratio : With an interval or ratio variable, a characteristic is measured on a scale with equal intervals

Multivariate Analysis of Variance, Multiple Regression, Factor Analysis

Valedictory



The valedictory session was presided over by Dr. Sr. Lilly P L, Principal, St. Joseph's College [Autonomous], Irinjalakuda. The certificates were distributed during the function. The speakers and participants shared their experience. This programme ended with a high-tea.