

ONLINE ICAR SPONSORED SHORT COURSE on

Statistical Development for Data Analytics in Agricultural Experimentation

(January 27, 2022 - February 05, 2022)

Course Director:

Dr. Arpan Bhowmik

Course Co-Coordinators:

Dr. Susheel Kumar Sarkar

Dr. Anindita Datta

*"Statistical thinking will one day be as necessary
for the efficient citizenship as the ability to read
and write."*

—H.G. Wells



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Introduction

Statistics provides scientific tools for representative data collection, appropriate analysis, summarization of data and finally inferential procedures for drawing conclusions in the face of uncertainty. Statistical tools and techniques played a key role in the development and refinement of many technologies in agricultural research. Statistical methodologies, be it descriptive statistics, correlation and regression analysis, inferential statistics, design of experiments, sample survey, multivariate techniques, statistical modelling etc. each is having its own importance for technological enhancement in agricultural research. The choice of appropriate statistical techniques according to the need of the situation are very crucial to obtain a meaningful interpretation of the investigation. The subject is now well developed and with the help of computers, one can handle any kind of analysis. With the exposure of advanced statistical tools, researchers will be able to make use of the recent and appropriate statistical techniques for analysis of the data pertaining to their experiments. It is very vital for the researchers, particularly agricultural researchers to be acquainted with the modern statistical techniques along with the use of computers.

This course, therefore, aims to update the analytical skills of the agricultural researchers under national agricultural research and education system and to provide them with an opportunity to study and learn the basic statistical techniques which includes descriptive statistics and exploratory data analysis, testing of hypothesis, fundamentals of design of experiments, multivariate techniques etc. along with the commonly used computer software for data analysis viz. MS-EXCEL, SAS, SPSS, R etc. The course is practical oriented and more emphasis would be given on interpretation of the results.

Objectives

- To familiarize the participants with the recent advances in statistical techniques for analysis of data for making valid inferences from their agricultural research
- To acquaint the participants with the use of statistical software packages for statistical data analysis
- To help in upgrading the analytical skills of the participants under national agricultural research and education system

Course Contents

The course has been structured in a series of modules with classroom lectures and practical on computers. The course deals with statistical tools and techniques and the use of statistical software packages.

The main focus of the course will be on the statistical issues in agricultural research and algebraic details will be avoided as far as possible. Besides laying the focus on concepts and applications, the focus would also be concentrated on analysis of data using statistical packages. Course material will be provided to all participants.

There will be ample opportunity for every participant to express his/her research experiences in the field of their specialization. The course content will be divided into four modules as follows:

Module I: Useful Statistical Tools for Data Analysis

- Descriptive Statistics and Exploratory Data Analysis
- Testing of Hypothesis (t-test, F-test, Chi-Square test)
- Transformation of Data
- Non-parametric Tests
- Correlation and Regression
- Logit and Probit Model

Module II: Design and Analysis of Agricultural Experiments

- Multiple Comparison Procedures
- Incomplete Block Designs
- Groups of Experiments
- Analysis of Covariance
- Factorial Experiments
- Split and Strip Plot Designs
- Response Surface Designs
- Crossover Designs
- Augmented Designs

Module III: Multivariate Statistical Techniques

- Multivariate Analysis of Variance and Covariance
- Cluster Analysis
- Discriminant Analysis
- Principal Component Analysis

Module IV: Statistical Software and Online Platform

- MS Excel
- SPSS
- SAS
- R Software
- Design Resources Server
- Indian NARS Statistical Computing Portal
- KRISHI Portal

Training Mode: Online

Duration: 27 January - 05 February, 2022 (10 Days)

Maximum Number of participants : 50

**Last date for receipt of Applications :
January 20, 2022**

**Information to Selected Candidate :
January 23, 2022**

Eligibility

- Master's Degree in any discipline of Agricultural sciences/Animal sciences/Fishery sciences/ Statistics/ Computer application.
- Working in a position not below the rank of Scientist/ Assistant Professor in ICAR Institute.
- Working knowledge of Statistics and Computers.

Application Form

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**"Statistical Development for Data Analytics in
Agricultural Experimentation"
(January 27 - February 05, 2022)**

1. Full Name (in block letter):
2. Designation:
3. Present employer:
4. Present Address: _____

Telephone No. (off.): _____(Mob)_____
5. Date of Birth:
6. Sex (Male / Female):
7. Category:
8. Teaching/ Research / Professional Experience (mention post held during last 5 years and number of publications)
9. Marital Status: Married/Unmarried
10. Mention if you have Participated in any Research Seminar/ Summer/ Winter School/ Short Course, etc. during last 5 years under ICAR / other organizations:
11. Academic Record:

Exam. passed	Subjects Main / Subsidiary	Year of Passing	Class rank/ Distinction etc.	University / Institution
Ph.D. Masters degree Other (specify)				

12. Discipline:
13. Level of knowledge of Statistics, Design of Experiments and Computer usage:

Signature of the Applicant with Date

14. Recommendations of the forwarding Institute

**Signature of the forwarding Authority
with Seal and Date**

ICAR-IASRI, New Delhi (<https://iasri.icar.gov.in/>)

ICAR-IASRI is a premier Institute mainly responsible for conducting research and imparting education/ training in the field of Agricultural Statistics, Computer Applications and Bioinformatics. There are six divisions in the Institute and the Institute is equipped with the modern facilities that include:

- *Computing facilities:* The Institute has several computer laboratories well equipped with latest hardware and software packages along with modern teaching aids.
- *Library:* The e-library has rich collection of books and journals on Statistics, Computer Science, Bioinformatics and other related disciplines including on-line journals and bibliographic databases.

Nominations

Interested personnel fulfilling the eligibility conditions may apply **through proper channel in CBP Vortal (<https://cbp.icar.gov.in/>) on or before January 20, 2022. Application through proper channel in CBP Vortal only will be considered.**

For other queries correspondence may be addressed to:

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or

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or

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