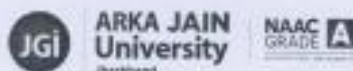


## CIRCULAR



**DEPARTMENT OF BIOTECHNOLOGY**  
**SCHOOL OF HEALTH & ALLIED SCIENCE**

### CIRCULAR

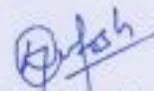
Ref. No. AJU/SOHAS/37/25

Date: 4-02-2025

Department of Biotechnology, School of Health and Allied Science, Arka Jain University is organizing a 5 day Workshop on "Application of Biostatistics and SPSS in Research in Biotechnology" from 15<sup>th</sup> February 2025. Participant have to register for the course using the given registration link.

**Registration Link:**

[https://docs.google.com/forms/d/e/1FAIpQLSceS8YCI\\_g5URKibz-yu7wI59UqXEELJV1uk9qdFB6vUHGWA/viewform?usp=sharing](https://docs.google.com/forms/d/e/1FAIpQLSceS8YCI_g5URKibz-yu7wI59UqXEELJV1uk9qdFB6vUHGWA/viewform?usp=sharing)



**Dr. Santosh Kumar Singh**  
**Head of Department**  
**Department of Biotechnology,**  
**School of Health and Allied Science**  
**ARKA JAIN University, Jharkhand**

**HOD**  
 Department of Biotechnology  
 School of Health & Allied Science  
 ARKA JAIN University, Jharkhand

*Copy for information & necessary action please:-*

1. PS to the Vice-Chancellor
2. PS to the Director
3. PS to the Registrar
4. In charge Web services for Website
5. Notice Board
6. Guard File

## “APPLICATION OF BIOSTATISTICS AND SPSS IN RESEARCH IN BIOTECHNOLOGY”

<b>Date of Event</b>	<b>17.02.2025 – 21.02.2025</b>
<b>Name of the Event</b>	<b>Application of Biostatistics and SPSS in Research in Biotechnology</b>
<b>Type of the Event</b>	<b>Workshop</b>
<b>Conducted by</b>	<b>Department of Biotechnology</b>
<b>No. Of Participant</b>	<b>41</b>

**Objective:** The objective of this 5-day workshop is to provide comprehensive theoretical and practical training in biostatistical methods and their application using SPSS software for research in biotechnology. The workshop is designed to strengthen the analytical skills of students, researchers, and faculty by enabling them to apply appropriate statistical tools for experimental design, data analysis, and result interpretation in life science research. The specific aims are to:

- Familiarize participants with basic and advanced concepts of biostatistics relevant to biological research.
- Provide hands-on experience in SPSS for performing statistical tests, data visualization, and interpretation of outputs.
- Guide participants in selecting the right statistical methods for various types of experimental designs and datasets.
- Promote the integration of statistical thinking in the planning, execution, and publication of biotechnological research.
- Enhance confidence in using statistical software for hypothesis testing, regression analysis, ANOVA, and multivariate analysis.

**Details of the Event:** Department of Biotechnology in association with Centre for Capacity Building & Human Resource Development (CCHRD) organized 5-days workshop on “Application of Biostatistics and SPSS in Research in Biotechnology”. The target audience was B.Sc. Biotechnology students. Resource persons were esteemed experts Mr. Ratan Kumar Singh, Assistant Professor, School of Commerce & Management and Dr. Sudeshna Sarkar, Assistant Professor, School of Commerce & Management, Arka Jain University. Key topics covered were Measurement of central tendency, Measurement of dispersion, Correlation, Regression, Probability and Distribution, test of significance, ANOVA, Introduction to SPSS, Learning to enter data in SPSS, Descriptive statistics using SPSS and advance descriptive statistics in SPSS.

**Outcome:** By the end of the workshop, participants will be able to:

1. **Comprehend Key Biostatistical Concepts** such as measures of central tendency, dispersion, probability distributions, sampling methods, and hypothesis testing as applied to biological data.

2. **Apply Appropriate Statistical Tests** (e.g., t-test, chi-square, ANOVA, correlation, and regression) based on the type and nature of experimental data in biotechnology research.
3. **Perform Data Analysis Using SPSS** including data entry, variable coding, data transformation, and execution of various statistical procedures.
4. **Interpret SPSS Outputs Accurately**, including understanding p-values, confidence intervals, and significance levels, and translating them into meaningful scientific conclusions.
5. **Visualize Data Effectively** using SPSS tools for generating graphs, charts, and tables for presentations and publications.
6. **Design Statistically Sound Experiments** by integrating statistical reasoning into research planning and methodology development in biotechnology.
7. **Strengthen Research and Publication Skills** by learning how to report statistical findings in theses, research papers, and scientific reports in alignment with standard formats.

## POSTER OF THE EVENT



**ARKA JAIN University**  
Jharkhand

**NAAC GRADE A**  
ACCREDITED UNIVERSITY



DEPARTMENT OF BIOTECHNOLOGY &  
CENTRE FOR CAPACITY BUILDING AND HUMAN RESOURCE  
DEVELOPMENT

# 5-Day Workshop on Applications of Bio Statistics and SPSS in Research in Biotechnology

February 17-21, 2025 | 13:00-15:00

## CONTENTS

- MEASURES OF CENTRAL TENDENCY
- MEASURES OF DISPERSION
- CORRELATION
- REGRESSION
- PROBABILITY AND DISTRIBUTION
- TESTS OF SIGNIFICANCE
- ANOVA
- INTRODUCTION TO SPSS
- LEARNING TO ENTER DATA IN SPSS
- DESCRIPTIVE STATISTICS USING SPSS
- ADVANCED DESCRIPTIVE STATISTICS IN SPSS

Convenor: Dr. Santosh Kumar Singh

Resource Persons: Prof. Ratan Kumar Singh &  
Prof. Sudeshna Sarkar, Faculty, School of  
Commerce and Management

Coordinator: Dr. Charu Wadhwa, Asst. Director, CCHRD

**For more details, contact:**  
**dr.santosh@arkajainuniversity.ac.in**  
**7970518599**

Scan to Register





## GLIMPSE OF THE EVENT


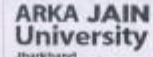



**Fig 1. Dr. Sudeshna Sarkar, Assistant Professor, School of Commerce & Management as Resource person delivering session on SPSS**



**Fig 2. Dr. Sudeshna Sarkar, Assistant Professor, School of Commerce & Management as Resource person delivering session on SPSS**

## LIST OF PARTICIPATES


Department of Biotechnology, School of Health & Allied Sciences  
 &  
 Centre for Capacity Building & Human Resource Development

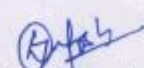
**5-Day Workshop on 'Applications of Bio Statistics and SPSS in Research in Biotechnology'**

Date: 17/02/2025

**Attendance Sheet: List of participants**

S. No.	Name of the Student	Enrollment No.	Program/Department	Signature
1	Angel Shukla	AJU/231280	BSc biotech (4)	Angel Shukla
2	Aryan Kesharvani	AJU/231494	Bsc biotech (4)	Aryan K
3	Montaho Kumari	AJU/230316	Bsc biotech (4)	Montaho Kumari
4	Annu Mahato	AJU/231683	Bsc biotech (4)	Annu Mahato
5	Kritika Kumari	AJU/241847	Bsc. Biotech (2nd)	Kritika Kumari
6	Sanjana Kumari	AJU/241772	Bsc. Biotech (2nd)	Sanjana Kumari
7	Anushka Shaw	AJU/241020	Bsc. Biotech (2nd)	Anushka
8	Jyotsana Bharti	AJU/241061	Bsc. Biotech (2nd)	Jyotsana Bharti
9	Kum Kum Kumari Saha	AJU/241495	BSC. Biotech (2nd)	Kum Kum Kumari Saha


  
**Dr. Charu Wadhwa**  
 Asst. Director, CCHRD

  
**Dr. Santosh Kumar Singh**  
 HoD- Dept. of Biotechnology

Date: 17/04/2025

## Attendance Sheet: List of participants

S. No.	Name of the Student	Enrollment No.	Program/Department	Signature
10	Priyanshu K. Pandey	AJU/241296	Bsc Biotech	Priyanshu
11	Priyanka Kumari	AJU/241	Bsc Biotech	Priyanka
12	Kirti Bala	AJU/242160	Bsc - Biotech	Kirti
13	Priy Mandel	AJU/241701	BSc. Biotech	Priy
14	Sneha Verma	AJU/242044	BSc. Biotech	Sneha
15	Mili Kumari	AJU/241956	Bsc. Biotech	Mili Kumari
16	Ayushi Avantika	AJU/241872	Bsc. Biotech	Ayushi Avantika
17	Rahul Jha	220629	Biotech	Rahul
18	Lakshya Mundri	AJU/221371	B.Sc. Biotechnology	Lakshya Mundri
19	Nayanika Singh	AJU/221154	"	Nayanika
20	Ranjan Singh	AJU/221378	"	Ranjan
21	Rajal Singh	AJU/241330	BSc. Biotechnology	Rajal Singh
22	Aarti Kumari	AJU/241365	BSc. Biotechnology	Aarti Kumari
23	Ananya Sankhdev	AJU/241588	BSc. Biotechnology	Ananya Sankhdev
24	Anurag Mahab	AJU/240839	"	Anurag Mahab
25	Ifra Jahangir	AJU/241580	"	Ifra

  
 Dr. Charu Wadhwa

Asst. Director, CCHRD

  
 Dr. Santosh Kumar Singh

HoD- Dept. of Biotechnology



Date: 18/02/2025

## Attendance Sheet: List of participants

S. No.	Name of the Student	Enrollment No.	Program/Department	Signature
01	Anushka Shaw	AJU/241020	BSc. Biotech	Anushka
2	Jyotsana Bharti	AJU/241061	BSc. Biotech (2 <sup>nd</sup> Sem)	Jyotsana
3	Kum Kum Kumari	AJU/241495	BSc. Biotech (2 <sup>nd</sup> )	Kum Kum Kumari
4	Pooja Mandal	AJU/241701	BSc. Biotech (2 <sup>nd</sup> )	Pooja
5	Mili Kumari	AJU/241956	BSc. Biotech (2 <sup>nd</sup> )	Mili Kumari
6	Kirti Bala	AJU/242160	BSc. Biotech (2 <sup>nd</sup> )	Kirti
7	Lakshya Mundri	AJU/221371	BSc. Biotechnology (6 <sup>th</sup> )	Lakshya
8	Ravi Babashwaha	AJU/241247	BSc. Biotech	Ravi Babashwaha
9	Rithik K. Loyal	AJU/241059	"	Rithik K.
10	Nayanara Sena	AJU/221259	" (6 <sup>th</sup> )	Nayanara
11	Kanu Polya	AJU/221298	" (6 <sup>th</sup> )	Kanu
12	Lanjana Kumari	AJU/241772	" (2 <sup>nd</sup> )	Lanjana
13	Kritika Kumari	AJU/241846	"	Kritika
14	Poojanika K. Pandey	AJU/241296	" (2 <sup>nd</sup> )	Poojanika
15	Ifra Jahangir	AJU/241580	" (2 <sup>nd</sup> )	Ifra
16	Ananya Sankhla	AJU/241588	" (2 <sup>nd</sup> )	Ananya

Dr. Charu Wadhwa

Asst. Director, CCHRD

Dr. Santosh Kumar Singh

HoD- Dept. of Biotechnology



Date: 18/2/25

## Attendance Sheet: List of participants

S. No.	Name of the Student	Enrollment No.	Program/Department	Signature
17.	Payal Singh	AJU/241330	BSc Biotechnology	Payal Singh
18.	Aparna Mahato	AJU/240839	"	Aparna Mahato
19	Aarti Kuri	AJU/241865	"	Aarti Kuri
20	Manisha Kumari Singh	AJU/230376	BSc Biotechnology	Manisha Kumari Singh
21	Annu Mahato	AJU/231683	"	Annu Mahato
22	Ananya Mishra	AJU/230805	"	Ananya Mishra
23.	Angel Shukla	AJU/231280	Bsc Biotech (C)	Angel Shukla
24.	Aryan Kesharwani	AJU/231494	Bsc Biotech (C)	Aryan Kesharwani
2				

  
 Dr. Charu Wadhwa

Asst. Director, CCHRD

  
 Dr. Santosh Kumar Singh

HoD- Dept. of Biotechnology

Date: 19/02/2025

## Attendance Sheet: List of participants

S. No.	Name of the Student	Enrollment No.	Program/Department	Signature
1	Angel Shukla	AJU/231250	B.Sc biotech	Angel
2	Aryon Kesharwani	AJU/231494	B.sc biotech	Aryon
3	Priya Rai	AJU/231428	B.sc biotech	Priya
4	Manisha K. Singh	AJU/230376	Bsc - Biotech	Manisha K. Singh
5	Kartika K. Yadav	AJU/231122	Bsc. Biotech	Kartika K. Yadav
6	Annu Mahato	AJU/231683	BSC-Biotech	Annu Mahato
7	Nidhi Agarwal	AJU/230063	BSc-Biotech	Nidhi Agarwal
8	Chiranjy Aggarwal	AJU/231113	BSC-BIOTECH	Chiranjy
9	Ananya Mishra	AJU/230805	BSc. Biotech	Ananya
10	Mili Kumari	AJU/241956	BSc-Biotech	Mili Kumari
11	Aparna Mahab	AJU/240839	"	Aparna Mahab
12	Payal Singh	AJU/241330	BSC BIO TECH	Payal Singh
13	Pratibha Kujur	AJU/241506	BSc. Biotech	Pratibha
14	Sanjana Kumari	AJU/241412	Bsc-Biotech	Sanjana
15	Kritika Kumari	AJU/241802	Bsc Biotech	Kritika Kumari

Dr. Charu Wadhwa

Asst. Director, CCHRD

Dr. Santosh Kumar Singh

HoD- Dept. of Biotechnology

Date: 19/2/28

## Attendance Sheet: List of participants

[illegible]

Dr. Charu Wadhwa  
Asst. Director, CCHRD

Dr. Santosh Kumar Singh  
HoD- Dept. of Biotechnology

Date: 20/4/25

## Attendance Sheet: List of participants

[illegible]

Dr. Charu Wadhwa  
Asst. Director, CCHRD

Dr. Santosh Kumar Singh  
HoD- Dept. of Biotechnology



Date: 21/2/25

## Attendance Sheet: List of participants

S. No.	Name of the Student	Enrollment No.	Program/Department	Signature
01.	Manisha K. Singh	AJU/230376	BSc Biotechnology	Manisha K.
02.	Annu Mahato	AJU/231683	BSC. Biotech	Annu Mahato
03.	Pritya Rai	AJU/231428	BSC. Biotech	Pritya
04.	Kavishma Kri. Yadav	ASO/231122	BSC. Biotech	Kavishma Yadav
05	Ananya Mishra	AJU/230805	BSC. Biotech	Ananya Mishra
06	Aryan Keshanwani	AJU/231494	BSC. Biotech	Aryan K.
07	Chirag Agarwal	AJU/231113	BSC. BIOTECH	Chirag
08	Janya Kumari	AJU/230659	BSC. BIOTECH	A. Janya
09	Nidhi Agarwal	AJU/230063	BSC. BIOTECH	Nidhi
10	Rajal Singh	AJU/241330	BSC. BIOTECH	Rajal Singh
11	Aparna Mahato	AJU/241839	BSC BIOTECH	Aparna
12	Kritika Kumari	AJU/241847	BSC. Biotech	Kritika Kumari
13	Sheha Verma	AJU/242204	BSC. Biotech	Sheha Verma
14	Sanjana Kumari	AJU/241772	BSC. Biotech	Sanjana.
15	Priyanka Kumari	AJU/241709	BSC. Biotech	Priyanka
16	Pratibha Kujur	AJU/241506	BSC. Biotech	Pratibha

Dr. Charu Wadhwa

Asst. Director, CCHRD

Dr. Santosh Kumar Singh

HoD- Dept. of Biotechnology

Date:

## Attendance Sheet: List of participants

[illegible]

Dr. Charu Wadhwa  
Asst. Director, CCHRD

Dr. Santosh Kumar Singh  
HoD- Dept. of Biotechnology

## FEED BACK REPORT

1. Were you clearly informed about the objectives of the workshop?

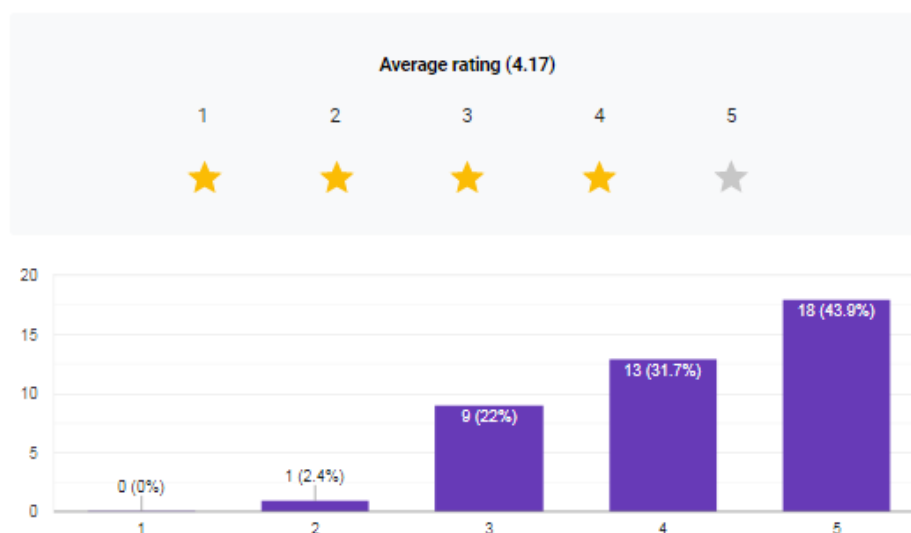
41 responses



2. How would you rate the organization of the workshop?

[Copy chart](#)

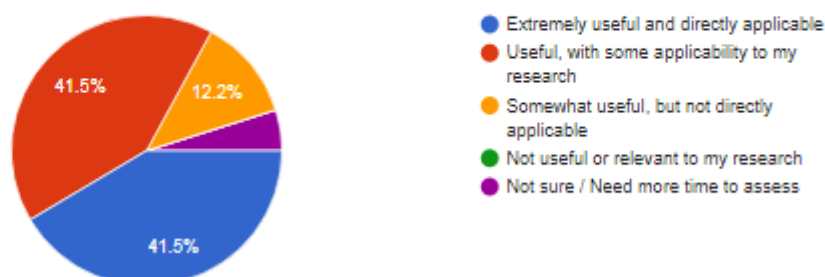
41 responses



3. How would you rate the usefulness and applicability of the concepts and techniques covered in the workshop

[Copy chart](#)

41 responses



4. Were the demonstrations and explanations easy to understand?

41 responses

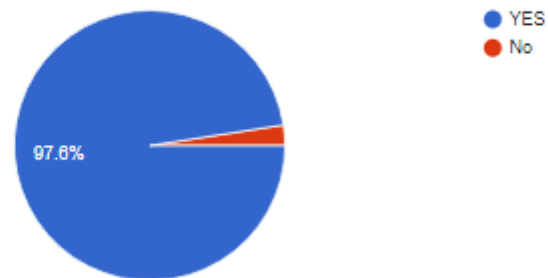
 [Copy chart](#)



5. Would you be interested in more such workshop in the future?

41 responses

 [Copy chart](#)





## CERTIFICATE OF APPRECIATION TO THE EXPERT



### CERTIFICATE OF APPRECIATION

This certificate is presented to

**PROF. RATAN KUMAR SINGH**

in recognition for being the **Resource Person** for the  
**Five-Day Workshop on 'Applications of Bio Statistics and SPSS  
in Research in Biotechnology'**

organized by *Centre for Capacity Building and Human Resource Development*  
(CCHRD) & Department of Biotechnology, ARKA JAIN University,  
from February 17, 2025 to February 21, 2025.

DR. CHARU WADHWA  
ASSISTANT DIRECTOR  
CCHRD

DR. SANTOSH KUMAR SINGH  
HOD  
DEPT. OF BIOTECHNOLOGY



### CERTIFICATE OF APPRECIATION

This certificate is presented to

**PROF. SUDESHNA SARKAR**

in recognition for being the **Resource Person** for the  
**Five-Day Workshop on 'Applications of Bio Statistics and SPSS  
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CCHRD

DR. SANTOSH KUMAR SINGH  
HOD  
DEPT. OF BIOTECHNOLOGY