



DEEN DAYAL UPADHYAYA COLLEGE (UNIVERSITY OF DELHI)



Department of Mathematics & Department of Botany

Organised

Faculty Development Program (FDP) in
Biostatistics: Theoretical and Practical aspects
(14th March – 18th March 2018)

Under

DBT Star College Scheme



सत्यमेव जयते

DEPARTMENT OF BIOTECHNOLOGY
GOVERNMENT OF INDIA

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Program Co-coordinator: Dr. Rajkumari S. Devi

Program Co-coordinator: Dr. S.N. Tripathi

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Dr. Poonam Garg

Dr. Varnika Bhatia

Dr. Amlendu

REPORT

Faculty Development Program on Biostatistics: Theoretical and Practical Aspects

(14.03.2018 – 18.03.2018)

A five day Faculty Development Program on Biostatistics was organized by Department of Mathematics and Department of Botany from 14th April to 18th April 2018 under the aegis of DBT Star College Scheme. A total of 40 candidates participated in this program including teachers and research scholars from different colleges of University of Delhi and other universities like Banaras Hindu University, Jawaharlal Nehru University, Kurukshetra University, GGSIP University, Sharda University, Lucknow University, National Institute of Immunology, Delhi Technological University, Govt. College for Women. A total of 10 candidates from Mathematics, 13 from Botany, 5 from Environmental Sciences, 5 from Statistics, 3 from Zoology, 2 from Immunology, 1 from IUCN and 1 from NGO have participated in the program.

Program Schedule:

Day I: 14/03/2018	
9.30 -10.30 AM	Inaugural
	Inaugural Address
10:30-10:50 AM	High Tea
10:50 AM -12:00 PM	Probability Model, Introduction to basic discrete and continuous distributions
12:00 PM-1:00 PM	Introduction to Biostatistics: Types of measurements, Types of data and Frequency distributions and Descriptive measures
1:00 -2:00 PM	Lunch Break
2:00-3:30 PM	Introduction to MS excel & SPSS: Data entry, Import and export of data (& Hands on)
3:30-3:45 PM	Tea Break
3:45-5:15 PM	Introduction to Latex and Beamer (& Hands on)
Day II: 15/03/2018	
9:45-10:15 AM	High Tea
10:15-11:45 PM	Statistical Inference: Estimation methods and Hypothesis testing: t, F and Chi-Square test, Large Sample Theory- z- test, Central Limit Theorem.
11:45 AM-1:00 PM	Hands on based on Excel and SPSS
1:00-2:00 PM	Lunch Break
2:00-3:30 PM	Sampling techniques, Determination of sample size
3:30-3:45 PM	Tea Break
3:45-5:15 PM	Hands on based on SPSS
Day III: 16/03/2018	
9:45-10:15 AM	High Tea

10:15-11:45 AM	Cochran's Theorem, ANOVA, Design of experiment: CRD, RBD, LSD, Missing plot technique, ANCOVA
11:45 AM-1:00 PM	Factorial Experiments and Confounding in 2^n and 3^n factorial experiment, Incomplete block design-BIBD, PBIBD
1:00-2:00 PM	Lunch Break
2:00-3:30 PM	Fraction Factorial Experiment ,Split Plot Design and Concept of Response Surface Design
3:30-3:45 PM	Tea Break
3:45-5:15 PM	Hands on based on SPSS and Excel
Day IV: 17/03/2018	
9:45-10:15 AM	High Tea
10:15-11:45 AM	Survival Analysis : Some lifetime distributions, Survival and Hazard function, Censoring schemes
11:45 AM-1:00 PM	Regression Analysis
1:00-2:00 PM	Lunch Break
2:00-3:30 PM	Matrix Theory and its applications in Multivariate Analysis: factor analysis, cluster analysis, logistic regression, discriminant analysis
3:30-3:45 PM	Tea Break
3:45-5:15 PM	Hands on based on SPSS
Day V: 18/03/2018	
9:45-10:15 AM	High Tea
10:15-11:45 AM	Some applications in the field of population genetics: Assessment of genetic diversity within and between populations, linkage analysis, phylogenetic analysis, parentage analysis, population size etc. using,
11:45 AM-1:00: PM	Hands on with STRUCTURE and DARwin Software.
1:00-2:00 PM	Lunch Break
2:00-3:00 PM	Introduction and hands on based on Sigmoid curve and sigma plot software
3:00-5:15 PM	Valedictory Function

List of Participants				
Sl. No.	Name	Designation	Institute	Contact/email
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36.	Dr. Priya Goel	Assistant Professor	Department of Zoology, DDU College	pwpriya@gmail.com
37.	Ashima Bangia	Research Scholar	USBAS , GGSIP University	
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40.	Ms. Shweta Upadhyaya	Senior Research Fellow	IESD, BHU Varanasi	7839001700, iesdbhushwetaupadhyay@gmail.com

RESOURCE PERSONS:

- | | |
|--------------------------|---|
| 1) Prof. K.S. Rao | Department of Botany, University of Delhi |
| 2) Prof. Shailendra Goel | Department of Botany, University of Delhi |
| 3) Dr. Ranjita Pandey | Department of Statistics, University of Delhi |
| 4) Dr. Ani Anna Elias | Department of Botany, University of Delhi |
| 5) Dr. Heena Ambreen | Department of Botany, University of Delhi |
| 6) Mr. Danish Ali | Department of Statistics, University of Delhi |
| 7) Mr. Pulkit Srivastava | Department of Statistics, University of Delhi |

PROCEEDINGS:

Inaugural session:

Inaugural talk on Biostatistics was delivered by Prof. K. S. Rao. He emphasized upon the application of Biostatistics in various areas of Biological Sciences.

The first day of the program covered:

Probability Model and different distributions, Introduction to Biostatistics, Introduction to MS excel & SPSS, Introduction to Latex and Beamer. Resource person for first day were Dr. Ranjita Pandey and Mr. Pulkit from the Department of Statistics of University of Delhi

Second day of the program encompassed:

Statistical Inference, Hands on based on Excel and SPSS. The resource person for this day was Mr. Danish Ali, Department of Statistics, University of Delhi

Third day included:

ANOVA, Design of experiment: CRD, RBD, LSD, Missing plot technique, ANCOVA, Factorial Experiments, Fraction Factorial Experiment ,Split Plot Design and Concept of Response Surface Design and Hands on based on SPSS and Excel. Resource persons of the day were Dr. Ranjita Pandey and Mr. Danish Ali.

Fourth day encompassed:

Survival Analysis, Regression Analysis, Matrix Theory and its applications, Hands on based on SPSS by Dr. Ranjita Pandey and Mr. Danish Ali.

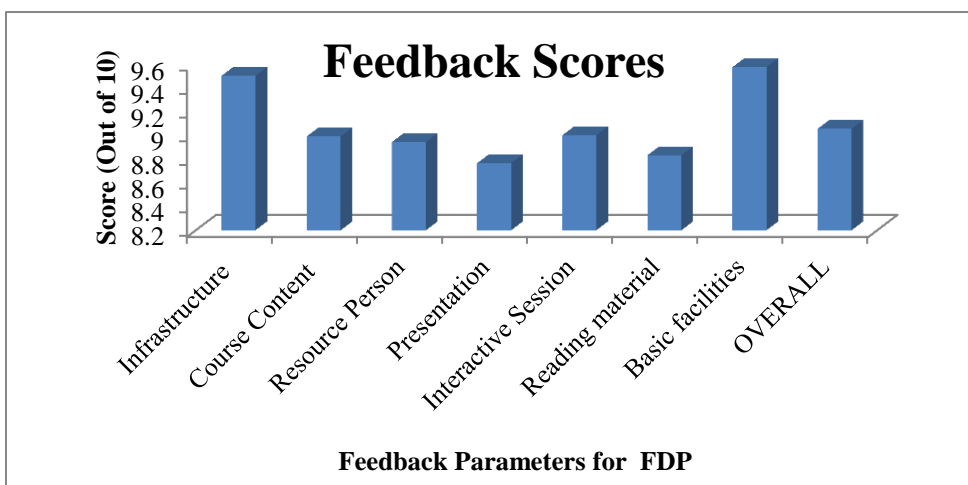
The fifth and concluding day was devoted to:

Some applications in the field of population genetics: Assessment of genetic diversity within and between populations, linkage analysis, phylogenetic analysis, parentage analysis, population size etc. using DARwin and Structure software. The resource persons for this day were Prof. Shailendra Goel, Dr. Ani Ena Elias and Dr. Heena from Department of Zoology of University of Delhi.

Introduction and hands on based on sigmoid curve and sigma plot software was handled by Mr. Danish Ali.

OUTCOME:

Feedback forms were provided to the participants and on the basis of the scores obtained for various selected parameters for the FDP a graph has been generated:



INAUGURAL SESSION OF FDP



Inaugural Lecture: Prof. K.S. Rao



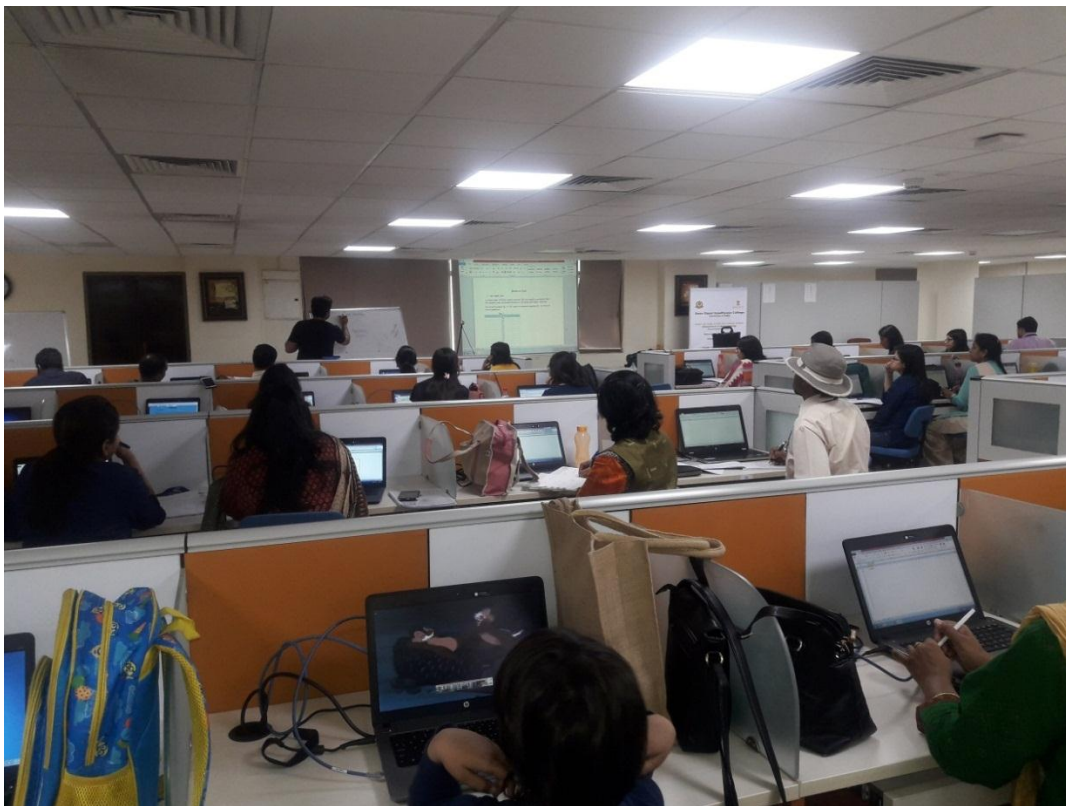
Technical Session: Dr. Ranjita Pandey



Technical Session: Dr. Ranjita Pandey



Technical Session: Mr. Danish Ali



Technical Session: Mr. Danish Ali



Group Photograph with Prof. Shailendra Goel and his team



Valedictory Session: Certificate Distribution



Valedictory Session