

## BIO-DATA

### **Official Address**

**Dr. Ratna Raj Laxmi**

**Professor**

**Deptt. of Statistics**

**M.D. University, Rohtak**

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### **Permanent Address**

**# 1186, Sector – 1**

**Distt. Rohtak-124001**

**Haryana**

**Tel. No.: 01262-273745**

**DOB: 02-01-1963**



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### **Experience:**

- Totalteachingexperience (full time)in college/University **26 years**
  - Under-Graduate **Six Months**
  - Post-Graduate **21 Years**
- TotalResearchExperience **29Years**

### **Detailed Total Experience**

#### **Professor**

**May 2010 - till date**

Departmentof Statistics, M. D., University, Rohtak, Haryana (India).

GuidingDoctorate,M.Phil.&M.Sc.Students,TeachingM.Phil.andPost-GraduateStudents.

#### **Associate Professor Jan., 2007- May 2010**

Departmentof Statistics, M. D., University, Rohtak, Haryana (India).

GuidingDoctorate,M.Phil.&M.Sc.Students,TeachingM.Phil.andPost-GraduateStudents

#### **Reader**

**May, 2001- Dec.,2006**

Departmentof Statistics, M. D. University,Rohtak, Haryana (India).

Guiding Doctorate, M.Phil.&M.Sc. Students,TeachingM.Phil. and Post-Graduate Students.

#### **Senior Lecturer**

**Nov., 1996-May, 2001**

Departmentof Statistics, M. D.,University, Rohtak, Haryana (India).

Guiding Doctorate, M.Phil.&M.Sc.Students,TeachingM.Phil. and Post-Graduate Students.

#### **Lecturer**

**Nov., 1990-Nov., 1996**

Department of Statistics, M. D. University, Rohtak, Haryana (India).

Guiding Doctorate, M.Phil.&M.Sc. Students, Teaching M.Phil. and Post-Graduate Students.

#### **Teaching Associate**

**April, 1991 to Oct.,1991**

Department of Mathematical Statistics, G. B. Pant University of a Agri.&Technology, Pant Nagar, Nanital, UC, India.

Teaching Mathematics Statistics courses to Under-graduate and Graduate students of Agriculture ,Veterinary, Home Sciences and Basic Sciences. Promote coordination and maintain liaison both within and outside the organization for the development and better coordination of statistical programmes.

**Assistant Scientist****April, 1985-Oct., 1985**

Department of Family Resource Management, COHS, HAU, Hisar, Haryana, India. Guidance to students offering project work in degree of Home Sciences, Analysis and evaluation of research project data. Interpreting analysis of food consumption and socio-economic data and familiarity with methodologies for deriving indicators on the food and agriculture situation.

1. Nominated as Member of Expert Committee by **Veterinary Council of India**
2. Member of Advisory Committee for **Special Assistance Programme (SAP) For DRS-1 sponsored by UGC**, awarded to the Dept. of Statistics M. D., University, Rohtak.
3. Referee for the Journals

**Published Research Work**

- **Research Paper:** 29 (list attached)
- **Books:** 03

**Symposium/Seminar/Conference**

- **International/National:** 19 (list attached)

## Refresher Course/Orientation Course

Course	Dates	Institution	Paper Presented
Ref. Course	03/09/2001 to 22/09/2001	Asc, Jamia Millia Islamia University, New Delhi	Yes
Ref. Course	01/05/2001 to 21/05/2001	CPDHE, New Delhi	Yes
Orientation	19/07/1999 to 13/07/1999	ASC, JNU, N. Delhi	-----
Ref. Course	20/03/1999 to 14/04/1999	IBS, Agra	Yes

## Number of Students Guided

### ➤ Ph.D. Thesis Guided

**Awarded                      08**

**Pursuing                        07**

➤ **M.Phil. Dissertation            14**

➤ **M.Sc. Projects                      28**

## Contribution of Educational Renovation/Design of New Courses & Curricula

- Consultancy to researchers in Statistics, Design and methodology of collection of data and interpretation, and Applied Mathematics.
- Setting of test papers for State Public Services Commission Exams.
- Participation in formation and revision of PG curriculum.
- Preparing technical documents and papers. Relevance of experience in using computer applications for statistics/econometric work.

## Other Relevant Information

### 1) Scholarship & Fellowships

- **IACR Senior Fellowship** during Ph.D. (1986-89)
- **University Merit Fellowship** during Post Graduate. (1982-84)
- **National Merit Scholarship** during Intermediate. (1978-80).
- Passed with **Honours** in Mathematics, Physics in Intermediate.
- **Third position** in order of merit in High School.
- Passed with **Honours** in Mathematics & Science in High School.

### 2) Member of Academic Bodies

- PG Boards of Studies of Universities, India.
- Faculty of Physical Sciences of Universities, India.
- UG Boards of Studies of Universities, India.

- Inspection committee.
- 3) Member of Academic Societies
    - Life member of Indian Society of Agricultural Statistics, N. Delhi, India.
    - Life member of Society Statistics, Computer and Application, N. Delhi, India.
  - 4) Member of Committees
    - Departmental Academic Committee
    - Departmental Students Activities and Examination Committee
    - Departmental Budget Estimation Committee
    - Departmental Report Committee
    - Departmental Educational Tour
    - Departmental Syllabi Committee
    - U.G. Board of Studies
  - 5) Participation in Extra-mural activities
    - Centre Superintendent
    - Superintendent
    - Deputy Superintendent
    - Member of Flying Squad
    - Actively involved in Departmental students “academic activities”

## Published Research Papers

- 1) Singh, J., Chaudhary, N., and Laxmi, R. R. (1997):”Cross-count Data Analysis in Social Survey” *Information Theoretic Approach Crop Research*, **17(3)**, 528-534.
- 2) Laxmi, R. R., (1998):”Stability Analysis: A review “ Proceeding of 1<sup>st</sup> Annual Conference of Society of Statistics, Computer & Applications held at Hisar (India).34-40.
- 3) Laxmi, R. R., and Gupta, R. (2000):” Different Approaches for Stability Measures in Relation To Genotype - Environment Interaction “. *Crop Research*, **20(1)**, 118-125.
- 4) Laxmi, R. R. and Gupta, R. (2001):” Models for Genotype Environment Data for Heteroscedasticity”. *Crop Research*, **21(3)**, 387-389.
- 5) Laxmi, R. R. and Singh, H.P. (2002): Genotype - Environment Interaction: An Inter Relationship. *Crop Research*, **24(2)**, 386-389.
- 6) Laxmi, R.R., Kaushik, B. and LalK. (2007):“ Rate of Spread of Human Immune Deficiency: Case Study of Haryana, Manipur and J & K”. *Ind. J. App. Stat.*, **11**, 14-18
- 7) Bahl, S., Laxmi, R.R. and Dalal, A. (2008): „A Method for Construction of  $2^m \times 3^n$  Asymmetrical Factorial Experiments”. *J. Indian Soc. Stat. Oper. Res.*, XXIX (1-4), 9-14.
- 8) Laxmi, R. R. and Kaushik, B. (2009): „ A study of Awareness about HIV/AIDS among Educating Young’s in Bhiwani, Haryana. “ *Man and Life*, **35** (1-2), 143-146.
- 9) Laxmi, R. R. and Rani, S. (2009): “Construction of Incomplete Block Designs for Two Sided Neighbor Effects Using MOLS.” *J. Indian Soc. Stat. Oper. Res.*, XXX (1-4), 17-29.
- 10) Laxmi, R. R., et. al. (2010): “Statistical Modeling Based on Heterosexual HIV/AIDS Transmission”. *J. Stat. Sci.*, **2(1)**, 51-59.
- 11) Laxmi, R. R. and Parmita (2010): “Pattern of Left Neighbors for Neighbor Balanced Incomplete Block Design. *J. Stat. Sci.*, **2(2)**, 91-104.

- 12) Laxmi R.R and Kumar A. (2011): "Weather Based Forecasting Model for Crop Yield using Neural Network." *Statistics and Applications*, **9 (1&2)**, 55-69.
- 13) Laxmi, R. R. and Kumar, A. (2011): "Forecasting of Powdery Mildew in Mustard crop using Artificial Neural Network Approach.", *Ind. J. Agril. Sc.*, **81(9)**, 855-860.
- 14) \*Laxmi, R.R., Parmita, Rani, S. (2013): "Two Sided Neighbors for Block Designs with Neighbor Effect ." *sbyijest* **5(3)**, 708-716
- 15) Laxmi, R. R. ,Kaushik, B. and Kaushik, S. (2012). "Statistical Modeling for Estimating HIV Infection." *Acta Ciencia Indica*, **38 M(4)**, 577-582.
- 16) Laxmi, R.R., Kaushik, B. and Kaushik, S. (2012): "Statistical Modeling Based on Mother to Child Human Immune Deficiency Virus (HIV) Transmission using Generating Function Approach." *Acta Ciencia Indica*, **38M (4)**, 651-660.
- 17) Laxmi, R. R, Parmita and Rani, S. (2013): "Two Sided Neighbor for Block Designs with Neighboring Effects:" *Int. J. of Engineering Sci. and Tech.*, **5(3)**, 709-716.
- 18) Laxmi, R. R. and Chetan. (2013): "Application of Mixture Experiments in Food Technologies." *Proceedings of International Conference on Recent Trends in Materials and Devices*, , Amity University, Uttar Pradesh, India.
- 19) Rani, S. and Laxmi. R. R." (2014). "Generalization of Nearest Neighbor Treatments using Euclidean Geometry." *IJAET*, **6(6)**, 2784-2790.
- 20) \*Rani S. and Laxmi R. R..(2014). "Patterns of Second Order Two Sided Neighbor Treatments using Dual Design." *PAMS*, **79**,.
- 21) Laxmi, R. R. and Chetan. (2014): "Application of Experiments with Mixture in Food Product Manufacturing." *International Journal of Statistika and Matematika*, **10(3)**, 80-84.
- 22) Laxmi R.R., Sandhya and Chetan (2015): "Concept of Conditional Reference Prior In the Study of Genotypic Variation." *International Journal of Agricultural Science and Research (IJASR)*, ISSN (P): 2250-0057; ISSN (E): 2321-0087, **5(6)**, 283-288.
- 23) Laxmi R. R., Chetan and Nisha. (2016): "Perspective of Dimension Reduction in the Study of Genotype-Environment Interaction Using Rough Set Theory." *International Journal of Humanities, Arts, Medicine and Sciences*, ISSN (P): 2348-0521, ISSN (E): 2454-4728, **4(3)**, 53- 56.
- 24) Chetan, Ratna Raj Laxmi & Mithlesh (2016): "Construction Of G- Optimal Multi-Factor Mixture Experiments Using Fractional Factorial Designs. *International Journal of Mathematics and Computer Applications Research* ISSN (P): 2249-6955(E): 2249-8060, **6**, 1-6.
- 25) Ratna Raj Laxmi, Mithlesh & Chetan (2016): "A Study of G- Optimal Fractional Factorial Designs in Pharmacological Researches." *International Journal of General Medicine and Pharmacy (IJGMP)* ISSN(P): 2319-3999; ISSN(E): 2319-4006, **5**, 33-38.
- 26) Ratna Raj Laxmi, Mithlesh & Chetan (2016). "Concept of Dummy Space in the Study of Fractional Factorial Design with Minimum Aberration. *International Journal of Applied Mathematics & Statistical Sciences (IJAMSS)* ISSN(P): 2319-3972; ISSN(E): 2319-3980, **5**, 15-24.
- 27) Ratna Raj Laxmi, and Chetan (2016) - A Treatise on Statistical Paradoxes Situation That Seems To Contravene Intuition. Kalpaz Publications, New Delhi – 110052, ISBN: 978-93-512-132-0.

## **Published Research Work**

### **Book**

#### **Chapter in book**

- 1) "Stability Analysis for Unbalanced Data using Mixed Linear Models in Random Mating Populations of crop Varieties" chapter 10 in the book "Recent Advances in Mating Designs" edited by Kaushik and Hasija (2005) Dhanpatrai & Co., 14.1-14.6
- 2) Construction of Block Designs for Nearest Neighbor Effects using Euclidean Geometry. Edited Book of Application and Role of Statistic Simulate Disciplinary Research. Chapter 10, pp 115-131.

#### **Book Published**

- 1) **A Treatise on Statistical Paradoxes**. KALPAJ Publications New Delhi -52.
- 2) **An Agglomeration of Experiments With Mixture Methodology**. Vol. 1. Author's Ink. Publication; with Chetan, Parul Saini, Sarita Rani and Nisha.
- 3) **An Agglomeration of Experiments With Mixture Methodology**. Vol. 2. Author's Ink. Publication; with Chetan, Parul Saini, Sarita Rani and Nisha.

#### **Symposium/Seminar/Conference**

- 1) Laxmi, R. R. (2014) Participated in a seminar on Official Statistics and Career Prospects held at Depart. Of Statistics, M. D., University, Rohtak on Feb 18, 2014.
- 2) Laxmi, R. R. (2012), presented paper entitled: Neighbor Designs through Projective Geometry: Two-sided Neighbors 66<sup>th</sup> Annual Conference (International Conference) of the Indian Society of Agricultural Statistics being held at Indian Agricultural Statistics Research Institute, New Delhi during December 18-20, 2012
- 3) Laxmi, R. R. (2011): Presented a paper entitled "Two-Sided Neighbors for Block design with Neighboring Effect" in 65<sup>th</sup> Annual Conference of the Ind. Soc Agril. Stat. held at NDRI Karnal; from Dec. 03-05, Mar 20-05, 2011.
- 4) Laxmi, R. R. (2010): Attended a workshop entitled "Applicable Statistics" held at M. D., University, Rohtak from 28-30, Mar. 2010.
- 5) Laxmi, R. R. (2006): Presented a paper entitled "Changes over Designs for Repeated Measurements" in International Conference on Statistics and Informatics in Agricultural research held at I.A.S.R.I., New Delhi, from Dec., 27-30, 2006.
- 6) Laxmi, R.R. (2006): Presented a paper in National Conference on History of Mathematics and Recent Advances held at M. D., University, Rohtak from Dec., 20-22, 2006.
- 7) Laxmi, R. R. (2006) : Presented a paper entitled "Changes over Designs with Complete Balanced for Repeated Experiments" in Forum frontier disciplinary Mathematics held at Chennai from Jan., 6-8, 2006.
- 8) Laxmi, R.R. (2006): Attended the Workshop on Information Technology for Teachers

organized by Department of Computer Science and Application held at M. D. University, Rohtak on Jan.7, 2006.

- 9) Laxmi, R.R. (2004): Presented a paper entitled “Breast Cancer: Risk Control and Prevention” in VIII International and XXXIX National Conference of Indian Academy of Applied Psychology on” Positive Health and Well Being. “from 15-17, July, 2004, held at Department of Psychology, M. D., University, Rohtak, Haryana.
- 10) Phogat,S.B. and Laxmi, R.R. (2003): Presented a paper entitled “Study on the Impact of Buffalo Husbandry Practices on Murrah Buffalo Milk Production”. VInternational Dairy Housing Conference from Jan.29-31,2003, held at Fort Worth Texas, US.**
- 11) Laxmi, R.R. (2002): Presented a paper entitled “Pooling Data Stability: Testing of Equality of Slopes of Regression Lines” in V International Symposium on Optimization and Statistics from 28-30 Dec. 2002 at AMU, Aligarh, India.
- 12) Laxmi, R.R. (2001): Presented a paper entitled “Stability Analysis for Unbalanced Data using Linear Models.” in Ref. Course from 3-22 Sept. 2001 at JamiaMilliaIslamia University, N. Delhi.
- 13) Laxmi ,R.R. (2001) : Presented a paper entitled “Recent Developments in Statistics ” in Ref .Course, from 1-21, May, 2001 at Delhi University, New Delhi.
- 14) Laxmi, R.R. (2000): Presented a paper entitled “Interpreting Interactions for Unequal Variances” at xx International Biometrics Conference from July 2-7, 2000 held at University of California, Berkeley, USA.**
- 15) Laxmi, R.R. (2000): Presented a paper entitled “Probability of Conception in Relation to Time of Mating in Cattleat xxthInternational Biometrics Conference from July 2-7, 2000 held at University of California, Berkeley, USA.**
- 16) Laxmi, R. R., (1999): Presented a paper entitled “Genotype x Environment Interaction: An Interrelationship” in the workshop on Industrial Mathematics & Computing, held at Institute of Basic Sciences, Agra, India.
- 17) Laxmi, R.R., (1998): Presented a paper entitled “Stability Analysis: A Review ”.In1<sup>st</sup> Annual Conference of Society of Statistics, Computer & Applications held at Hisar(India).
- 18) Attended First Annual Conference of Indian Society of Information Theory and Application and Symposium on Stochastic Processes and Their Applications from 3-5 Feb., 1996.
- 19) Laxmi R. R. (1990): “Cross Count Data Analysis in Social Surveys: An Information Theoretic Approach.” Presented at Annual Conference of Society of Agricultural Statistics held at Hisar.

## Ph.D. Thesis Guided

S.No.	Topic	Name of Student	Year
1.	Statistical Methods For Environments and Genotype Environmental Components of Variability	RenuBala	2002

2.	Evaluation and Statistical Analysis of Chromosomal Abnormalities in Breast Cancer	Sudha Rani	2006
3.	Statistical Modeling for Estimating Rate of HIV/AIDS Transmission Using Generating Function Approach	BhagirathKaushik	2010
4.	Neural Network Based Forecast Modeling in Crops Using Weather Parameters	Amrender Kumar	2012
5.	Genotype-Environment Interaction: Stability Measures for Experiments with Neighboring Effects	Parmita	2012
6.	Neighboring Competition Effects for Incomplete Blocks Designs	Sarita	2012
7.	Optimality And Analysis of Designs With Mixture Experiments	Chetan	2015
8.	Estimation of Population Parameters in Varying Probability Sampling for Multi-Character Surveys	Anita	2017
9.	Construction of Optimal Fractional Factorial Designs	MithleshKumari	Submitted
10.	Predicting Trends in Stock Market Using Artificial Neural Networks	SnehSaini	Thesis-Seminar Presented
11.	Construction of Neighbor Design: Balanced and Incomplete Balanced	Vikas	Pursuing
12.	Evaluation of Genotypes using Additive Model	Sandhya	Pursuing
13.	Structuring Multi - Environment Trial Data For Stable Genotypes	NishaDutt	Pursuing
14.	Construction of Designs for Experiments with Mixture	Parul	Pursuing
15.	Balanced Designs From Incomplete Block Designs	SaritaSaini	Pursuing

### M.Phil. Dissertation

S. No.	Topic	Name	Year
1.	Genotype x Environment Interaction: A review	Sunita	2002
2.	Genotype x Environmental Interaction For Incomplete Data and Non-Parametric Measures Of Stability	BhagirathKaushik	2003



3.	Stability Analysis in Genotype x Environmental Interaction Transmission Using Generating Function Approach	Amanpreet	2003
4.	A Review of Fractional Factorial Experiments	Shallendera Singh	2004
5.	A Review of Analysis of Unreplicated Factorial Experiment	Pankaj Kumar Bhatia	2007
6.	Partially Balanced Block Designs for Neighboring Competition Effects	Sarita Rani	2007
7.	A Study of Construction of Asymmetrical Factorial Design	PremPrakash	2008
8.	Testing for Marginal Independence between Gene and Environment Variables with Multiple Responses	Parmita	2008
9.	Construction and Analysis of Confounded Asymmetrical Factorial Designs	Parveen	2009
10.	Block Designs For Partially Balanced Neighboring Competition Effects	Vikas	2010
11.	Stability Analysis using Different Approaches: A Review	Nisha	2013
12.	Relationship Between Stability Measures in Genotype Environment Interaction	ParulSaini	2015
13.	Higher Ordered Neighbors of a Treatment in Neighbor Designs of OS <sub>1</sub> Series	SaritaSaini	2015
14.	A Review of Non- Parametric Stability Measures	Sweety	2016