




Faculty Details proforma for DU Web-site

Title	Dr.	First Name	Ranjita	Last Name	Pandey	Photograph
Designation		Assistant Professor				
Address		Department of Statistics, University of Delhi.				
Phone No	Office	27666671 Ext. 308				
Residence						
	Mobile	9868539655				
Email	Web-Page	ranjitapandey111@gmail.com				
Educational Qualifications						
Degree		Institution			Year	
D. Phil.		University of Allahabad			2002	
M.A.(Statistics)		University of Allahabad			1997	
B.A. (Mathematics, Statistics, Economics)		University of Allahabad			1995	
PGDCA		MCRP University, Bhopal			1998	
French Certificate		Banasthali Vidyapith, Rajasthan			2003	
Career Profile						
<p style="text-align: center;">Lecturer (Permanent) at Banasthali Vidyapith from 10.07.2000 to 23.01.2005</p> <p style="text-align: center;">Assistant Professor (Senior Grade) at University of Delhi from 24.01.2005 to present</p>						
Administrative Assignments						
<p>Member of DC, DRC, BRS, Faculty of Mathematical Sciences, M. Phil. Committee, Purchase Committee, Syllabus Revision Committee for M.Sc., Syllabus Revision Committee for B.Sc courses, Committee of internal assessment tests, NAAC Committee, Convenor and co-convenor of various subject committees under FYUP, Anti-eve teasing committee, Committee of courses for Honours and postgraduate studies, Workload committee, Committee for drawing up panel for appointment of Assistant Professors in the colleges and departments on ad-hoc basis, Admission committee, Board of Moderators for various undergraduate and post graduate courses, Internal Audit committee, Co-ordinator of M.phil. committee</p>						

(Examination work), Nodal Officer of the Department for NAAC Committee, Superintendent in various Theory and Practical Examinations of the Department, Superintendent to conduct Departmental MTS written Examination, Convenor of committee to coordinate final practical examinations of various colleges, framing of the syllabus and many others committees over the years.

Areas of Interest / Specialization

- ❑ Theoretical and Applied Bayesian Inference
- ❑ Lifetime Distributions
- ❑ Time Series Models
- ❑ Demography
- ❑ Imputation Methods
- ❑ Ecological Modelling

Subjects Taught

Statistical Methods, Applied Statistics, Statistical Inference at the **UG** level.
 Bayesian Inference, Stochastic Processes, Applied Stochastic Processes , Operational Research, Queueing theory, Theory of Reliability at the **PG** level.
 Applied Bayesian Statistics , Research Methodology, Stochastic Processes at the **M.Phil.** level.
 Practical Papers based on SPSS, C, Excel at **M.Sc.** level.

Additionally I have taught Statistics Paper in the following Departments of DU:

- M. Phil. - African Studies (2006-07)
- M. Sc. - Zoology (2010-11)
- M. Sc. - Botany (2010-11) and (2011-2012). Also framed the M.Sc. syllabus for the Biostatistics course in this Department 2011).

Time table of the subjects taught during the current semester

S.No.	Subject	Days	Time	Classroom
1	Stochastic Processes	Sem II	4 hrs a week	Lecture Room II
2	Operational Research	Sem III	4 hrs a week	Lecture Room I
3	Bayesian Inference	Sem III	4 hrs a week	Lecture Room I

4	Research Methodology	M.Phil./ Ph.D.	4 hrs a week	Room no. 303 and lab. No. 315
5	Bayesian Inference	M.Phil./ Ph.D.	4 hrs a week	Room no. 308
6	Practicals based on SPSS	Sem III	8 hrs a week	Lab no. 314
7	Practicals based on SPSS	Sem IV	4 hrs a week	Lab no. 314

Research Guidance

Ph. D. Degree (Two Awarded)

- ❑ Ph. D. thesis **submitted on 23.04.18**
Some Contributions to Bayesian Estimation Procedures for Lifetime Models
By Ms. Neera Kumari
- ❑ Ph. D. thesis **submitted on 27.03.17 (Viva-voce conducted)**
Some contributions to fertility models and its determinants in context of India
By Ms. Charanjit Kaur
- ❑ Ph. D. thesis **submitted on 27.01.17 (Viva-voce conducted)**
Some Contributions to estimation procedures in sample surveys using Auxiliary Information based on Imputation
By Ms. Kalpana Yadav

Ph. D. Degree (under Progress)

1. Mr. Danish Ali, DST-INSPIRE Fellow
2. Mr. Pulkrit Srivastava
3. Mr. Himanshu Tolani
4. Ms. Nidhi Jain

M.Phil. Degree (Five awarded)

1. A Review of Fertility Patterns : Theoretic and Modelling Approaches (**submitted July 2014**)
By Ms. Neena Yadav
2. Inferential and Stochastic Aspects of Some Lifetime Models- A Review From Classical and Bayesian Perspective (**submitted November 2014**)
By Mr. Mohammed Tayyab (**ISS selection 2015**)
3. Some Applications based on Markovian Models and Game Theory : A Review. (**submitted on 22. 05. 2017**).
By Mr. Pulkit Srivastava
4. Fertility, Mortality and Population Density : Review of Some Estimation and Modelling Procedures. (**submitted on 25. 05. 2017**)
By Ms. Alisha Khan (**ISS selection 2017**)
5. Applied Bayesian Practices : A Review (**submitted on 06.12.17**)
By Mr. Himanshu Tolani

M.Phil. Degree (under Progress)

1. Ms. Sayani Dey: Bayesian Studies on Complete and Censored Samples – A Review
2. Mr. Abhay Kumar : A Review of Order Statistics for some selected Distributions

Publications Profile

1. A. Chaturvedi and **R. Misra (2006)**. State Space Models with Edgeworth Series Distributed Disturbances in Statistical Advances in Biosciences and Bioinformatics. Ed. Prof. Manju Pandey. Allied Publishers Pvt. Ltd. ISBN: 81-7764-968-X
2. Y. S. C. Khuman, **R. Pandey**, K. S. Rao (Aug. **2011**). Fuelwood Consumption Patterns in Fakot Watershed, Garhwal Himalaya, Uttarakhand, *Energy*, Vol. 36(8), pp. 4769-4776. cited by 21
3. Y. S. C. Khuman, **R. Pandey**, K. S. Rao (Oct. **2012**). Micro-watershed level population based fuel wood consumption dynamics : implications of seasonal versus annual models for sustainable energy resource planning, *Renewable and Sustainable Energy Reviews*, Vol. 16(8), pp. 6142-6148. **I.F.=6.018**

4. **R. Pandey** (April **2014**). Shrinkage Estimation for a Family of Lifetime Distributions under Type II Censoring , *American Journal of Computational and Applied Mathematics*, Vol. 4 (3), pp. 92-96.
5. **R. Pandey**, N. S. Thakur and K. Yadav (Sep. **2015**). Estimation of Population Mean using Exponential Ratio Type Imputation Method under Survey Non-response, *Journal of Indian Statistical Association*, Vol. 53(2), pp. 89-107.
6. **R. Pandey**, N. S. Thakur and K. Yadav (Mar. **2015**). Separate Regression Type Imputation Methods To Estimate Population Mean, *International Journal of Computer and Mathematical Sciences*, Vol. 4, special issue, pp. 198-207.
7. Y. S. C. Khuman, Nancy Raina, **R. Pandey** and K. S. Rao (**2015**). Fuelwood assessment at the micro-watershed level: a case study in Garhwal Himalaya, India, *Chinese Journal of Population Resources and Environment*. pp. 177-186.
8. **R. Pandey** (**2015**). Posterior Analysis of State Space Model With Spherical Symmetry, *Journal of Probability and Statistics*. pp. 1-7.
9. **R. Pandey** and C. Kaur (**2015**). Modelling fertility: an application of count regression models, *Chinese Journal of Population Resources and Environment*. pp. 349-357.
10. **R. Pandey**, K. Yadav and N. S. Thakur (**2015**). Combined Exponential Type Estimators of Population Mean in Stratified Random Sampling. *Proceedings of International conference on [Recent Advances in Mathematics, Statistics and Computer Science](#)*. eds. A. K. Sinha, R. Rajesh, P. Ranjan and R.P. Singh, [Wold Scientific, Singapore](#). pp. 303-312.
11. **R. Pandey** and N. Yadav (**2015**). Fertility Decline: A Statistical Demographic Review of Parsi Community. *Bulletin Of Mathematics And Statistics Research*, Vol. 3(4), 104-122.
12. **R. Pandey** and A. Chaturvedi (**2016**). Bayesian Inference for State Space Model with Panel Data, *Statistics in Transition new series*, Vol. 17(2), pp. 211-220.
13. **R. Pandey**, K. Yadav and N. S. Thakur (**2016**). Adapted Factor-Type Imputation Strategies, *Journal of Scientific Research*, Vol. 8(3). pp. 321-339.

14. **R. Pandey** and K. Yadav (Nov. **2016**). An Alternative Class Of Exponential Ratio-Product Type Mean Imputation Using Auxiliary Information, *Journal of Applied Probability and Statistics*, Vol. 11(2). pp. 125-141.
15. A. Chaturvedi and **R. Pandey** (**2016**). Estimation and Testing Procedures for the Reliability Function of a Family of Inverse Distributions, *Proceedings of National Conference on Recent Advances in Statistical and Mathematical Sciences and their Applications*, Narosa Publishing House, New Delhi. ed. Neeraj Tiwari. pp. 74-89.
16. **R. Pandey** and K. Yadav (**2016**). Mean Estimation under Imputation based on Two-Phase Sampling Design using an Auxiliary Variable, *Pakistan Journal of Statistics and Operations Research*. Vol. 12 (4). pp. 639-658.
17. **R. Pandey** and N. Kumari (**2016**). A New Lifetime Distribution for Modeling Monotonic Decreasing Survival Patterns, *Journal of Reliability and Statistical Studies*, Vol. 9(2). pp. 53-70
18. **R. Pandey** and C. Kaur (Jan. **2017**). Spatial Analysis of Factors Influencing Birth Patterns in the States of India: 1985-2011. *Journal of Scientific Research* . Vol. 9 (1). pp. 43-56
19. **R. Pandey** and K. Yadav (Sep. **2017**). Population Variance Estimation using Factor Type Imputation Method. *Statistics in Transition new series*, Vol 18(3). pp. 375-392
20. **R. Pandey** and N. Kumari (Dec. **2017**). Bayesian Estimation for Inverse Size Biased p-Dimensional Rayleigh Distribution. *International Journal of Essential Science*. Vol.11 (1 & 2). pp. 16-24
21. **R. Pandey** and C. Kaur (Dec. **2018**). Modelling Fertility Schedules of India. *Canadian Studies in Population*, Accepted
22. **R. Pandey** and N. Kumari (Jan. **2018**). Estimation for ISB p-dim Rayleigh distribution under progressive type-II censored data using different loss functions. *International Journal of Engineering, Science and Mathematics*. Vol. 7 (1). pp. 467-477

23. **R. Pandey** and N. Kumari (Jan. **2018**). Bayesian Estimation for ISB p-dim Rayleigh distribution under type-II censored data using Lindley's Approximation. *World Wide Journal of Multidisciplinary Research and Development*. Vol. 4 (1), pp. 207-211
24. **R. Pandey** and K. Yadav (June **2018**). On Variance Estimation under Factor Type Imputation using Auxiliary Attribute. *International Journal of Agricultural and Statistical Sciences*. Vol. 14(1), pp. 95-101
25. **R. Pandey** and N. Kumari (**2018**). Bayesian Analysis of Power Generalized Weibull Distribution. *International Journal of Applied and Computational Mathematics*. Accepted.

Post Publication Book Review :

- **R. Pandey** (June **2018**). *Information Geometry and Population Genetics, The Mathematical Structure of the Wright - Fisher Model* by **Julian Hofrichter, Jurgen Jost and Tat Dat Tran, Springer (2017) : ISSN 1860-0832** in *Canadian Studies in Population* , 45(1-2), pp. 93-94

Pre Publication Book Review :

- **Contributed a few questions and reviewed** a portion of the *Pre-Published Indian Edition book* by **Pearson** - Global Edition of *Statistics: The Art and Science of Learning from Data*, 4th Edition by Alan Agresti, Christine A. Franklin, and Bernhard Klingenberg (**ISBN: 9781292164779**), **2015-16**.

Publications in the Last one year

1. **R. Pandey** and K. Yadav (Sep. **2017**). Population Variance Estimation using Factor Type Imputation Method. *Statistics in Transition new series*, Vol 18(3). pp. 375-392
2. **R. Pandey** and N. Kumari (Dec. **2017**). Bayesian Estimation for Inverse Size Biased p-Dimensional Rayleigh Distribution. *International Journal of Essential Science*. Vol.11 (1 & 2). pp. 16-24
3. **R. Pandey** and C. Kaur (Dec. **2018**). Modelling Fertility Schedules of India. *Canadian Studies in Population*, Accepted
4. **R. Pandey** and N. Kumari (Jan. **2018**). Estimation for ISB p-dim Rayleigh distribution under progressive type-II censored data using different loss functions. *International Journal of Engineering, Science and Mathematics*. Vol. 7 (1). pp. 467-477

5. **R. Pandey** and N. Kumari (Jan. **2018**). Bayesian Estimation for ISB p-dim Rayleigh distribution under type-II censored data using Lindley's Approximation. *World Wide Journal of Multidisciplinary Research and Development*. Vol. 4 (1), pp. 207-211
6. **R. Pandey** and K. Yadav (June **2018**). On Variance Estimation under Factor Type Imputation using Auxiliary Attribute. *International Journal of Agricultural and Statistical Sciences*. Vol. 14(1), pp. 95-101
7. **R. Pandey** (June **2018**). *Information Geometry and Population Genetics, The Mathematical Structure of the Wright - Fisher Model* by *Julian Hofrichter, Jurgen Jost and Tat Dat Tran, Springer (2017) : ISSN 1860-0832* in *Canadian Studies in Population* , 45(1-2), pp. 93-94 **R. Pandey** and N. Kumari (**2018**). Bayesian Analysis of Power Generalized Weibull Distribution. *International Journal of Applied and Computational Mathematics*. Accepted.

Conference Organization/ Presentations (in the last three years)

- ❑ **National Conference on Time Series, Analytics and Recent Advances in Statistical Modelling** organized by Department of Statistics, Central University of Rajasthan. Aug. 24-25, **2015**.
Title of the paper: An Alternate Estimation of Population Mean using Exponential Ratio Type Imputation Method under Survey Non-Response.
- ❑ **International Conference on Statistics and Related Areas for Equity, Sustainability and Development** in conjunction with **XXXV Annual Convention of Indian Society for Probability and Statistics** organized by Department of Statistics, Lucknow University. Nov. 28-30, **2015**.
Title of the paper: Birth Dynamics in the States of India.
- ❑ **International Conference on Statistics for Twenty First Century** organized by Department of Statistics, University of Kerala, Dec. 17-19, **2015**.
Title of the paper: Socio-Economic influence on Birth Counts : A Regression Approach.
- ❑ **International Conference on Celebrating Statistical Innovation and Impact in a World of Big & Small data** organized by Department of Statistics & Centre for Advanced Studies, Savitribai Phule Pune University. December 20-24, **2015**.
Title of the paper: Inverse Size Biased p-Dimensional Rayleigh Distribution.
- ❑ **18th Annual National Conference of Society of Statistics, Computer and Applications on significance of Statistics as Interdisciplinary Sciences** organized by Department of Statistics, University of Jammu. February 18-20, **2016**.
Title of the paper: Fertility in India - A Spatially Continuous Regionalised Analysis.

- ❑ **International Conference on Current Scenario and Prospects of Nanotechnology and Bio-Statistics** organized by School of Sciences, U.P. Rajarshi Tandon Open University, Allahabad. 25-26 February, **2016**.

Title of the paper: Bayesian Inference of Errors in Variable Linear Dynamic Model.

- ❑ **National Conference on Recent Statistical Computing Techniques and their Applications** organized by Department of Statistics and Department of Computer Science, Ramanujan College, University of Delhi. Mar. 11-12, **2016**.

Title of the paper: Bayesian Analysis of Linear Dynamic Model with Non-Normal Disturbances.

- ❑ **International Conference on Mathematical Modeling & Simulation** jointly organized by Department of Statistics, Institute of Science, Banaras Hindu University, Varanasi and Indian Academy of Mathematical Modeling and Simulation, IIT Kanpur. August 29-31, **2016**.

Title of the paper: Exploring Spatial Dimensions of Births in India: 1985-2011.

- ❑ **37th Annual Conference** of Indian Association for the study of Population organized by IASP at Institute of Economic Growth, University of Delhi. December 7-9, **2016**.

Title of the paper: Proposing a model for Births in India

Organizing Academic Events:

- ❑ **Convener** of a two day **workshop** on “Statistical Computing using R” during 14-15 September **2013** , organized by the Department of Statistics, University of Delhi, Delhi.
- ❑ **Coordinator** of a three day **Faculty Development Programme on Financial Statistics** held during 20 -22, December **2017**, organized by the Department of Statistics, University of Delhi, Delhi.
- ❑ **Coordinator** of a two day **Faculty Development Programme on Actuarial Statistics** held during 27 -28, December **2017**, organized by the Department of Statistics, University of Delhi, Delhi.

Research Projects (Major Grants/Research Collaboration)

1. Receptient of grant for the year 2007-2008 under scheme to strengthen R&D Doctoral research Programme by DU.
2. Co-Receptient of DU-DST PURSE grant 2009-2011.
3. Receptient of grant for the year 2011-2012 under scheme to strengthen R&D Doctoral research Programme by DU.
4. Receptient of grant for the year 2012-2013 under scheme to strengthen R&D Doctoral research Programme by DU.
5. Receptient of grant for the year 2013-2014 under scheme to strengthen R&D

Doctoral research Programme by DU.
6. Receptient of grant for the year 2015-2016 under scheme to strengthen R&D
Doctoral research Programme by DU.

Awards and Distinctions

Research Fellowship Recipient of Summer Research Teacher-Fellowship during the period
May-July 2004 sponsored by Indian Academy of Science, Bangalore
Title of the Project: Exploratory Data Analysis on Land Wind Speeds at selected weather
stations in India.
Supervisor: Dr. A.P. Gore, Professor, Pune University

Association With Professional Bodies

Membership of Academic Bodies

Life member of Indian Bayesian Society **since 2002**.
Annual membership of Indian Science Congress, **2002-2003**.
Life Member of Indian Society for Probability and statistics **since 2011**.
Member Human Ethics Committee- North Campus, DU **2011-2012**

Other Activities

Proposed Invited Talk

1. at a premier University in India during Dec. '18
The topic of talk is :
◆ *Some Counter Intuitive Statistical Facts*

Academic Activities:

- ❑ **Chaired a session** of contributory paper presentation at **National Conference on Recent Statistical Computing Techniques and their Applications** organized by Department of Statistics and Department of Computer Science, Ramanujan College, University of Delhi. Mar. 11-12, **2016**
- ❑ **Subject expert at various state and national level forums and commissions**
- ❑ Paper setter for **about Ten Indian Universities** over last one and a half decade
- ❑ Guiding various applied researchers from Indian Universities and associated medical colleges, hospitals and research institutes in **statistical analysis of their research data**
- ❑ External examiner for **M.Sc. Dissertation** in
 - Computer Science Department , DU (**2011-12**)
 - Social Work Department, DU (**2017-18**)

- **Mentored** a M. Sc. Student Ms. Alexandra H. Ackroyd from **University of California** under a visiting student initiative of University of Delhi (**2011-12**)

Reviewer for Journals :

Journal of Indian Statistical Association,
Scholarly Journal of Mathematics and Computer Science,
Journal of Advanced Research in Applied Mathematics and
Statistics, Research and Reviews: Journal of Statistics,
Pakistan Journal of Statistics and Operations
Research
Journal of Reliability and Statistical Studies,
The Open Statistics and Probability Journal,
Journal of Modern Applied Statistical Methods,
Phytomorphology
Applied Economics
The Indian Economic Journal
Conference organized by University of Jaffna 2018
Journal of Model Assisted Statistics and Applications

Invited Talks (Each of *one and a half hour* duration):

- **Two invited lectures** at Department of Psychology, School of Social Sciences, IGNOU on 29/08/18.

The topics of talk were:

- ◆ ***Multidimensional Scaling***
- ◆ ***Structural Equation Modelling.***

- **One invited talk** in a **Faculty Development Programme** at Jaypee Institute of Information Technology, Noida on **10/07/18**.

The topic of talk was:

- ◆ ***Model Building in Time Series Analysis***

- **Seven Invited lectures in Faculty Development Programme on Biostatistics: Theoretical and Practical aspects** held during 14 -18, March **2018**, organized by the Department of Mathematics and Botany, Deen Dayal Upadhyaya College, University of Delhi, Delhi.

The topics of talks were:

- ◆ *Probability Model, Introduction to basic discrete and continuous distributions*
- ◆ *Introduction to Biostatistics: Types of measurements, Types of data and Frequency distributions and Descriptive measures*
- ◆ *Statistical Inference: Estimation methods and Hypothesis testing: t, F and Chi-Square test, Large Sample Theory- z- test, Central Limit Theorem.*
- ◆ *Sampling techniques, Determination of sample size*
- ◆ *Survival Analysis: Some lifetime distributions, Survival and Hazard function, Censoring schemes*
- ◆ *Regression Analysis*
- ◆ *Matrix Theory and its applications in Multivariate Analysis: Factor analysis, Cluster analysis, logistic regression, discriminant analysis*

- **One Invited lecture** at the **DST Inspire Internship Science Camp** for school children from Jan. 21-25, **2018** at Sir Padampat Singhania University, Udaipur, Rajasthan.

The topic of talk was:

- ◆ *Statistical Thinking*

- **Three Invited lectures** in **Faculty Development Programme on Financial Statistics** held during 20 -22, December **2017**, organized by the Department of Statistics, University of Delhi, Delhi.

The topics of talks were :

- ◆ *Brownian Motion and Related Processes*
- ◆ *Stochastic Calculus*
- ◆ *Ito's Lemma and Dynamical Systems*

- **One Invited lecture** at the **DST Inspire Internship Science Camp** for school children from Oct. 17-21, **2016** at Sir Padampat Singhania University, Udaipur, Rajasthan.

The topic of talk was:

- ◆ *Probabilities: Rules for Numbers*

- **One Invited lecture** at the **DST Inspire Internship Science Camp** for school children from Dec. 20-24, **2015** at Sir Padampat Singhania University, Udaipur, Rajasthan.

The topic of talk was:

- ◆ *Scientific Inferences and Paradoxes*

- **One Invited lecture** at the **DST Inspire Internship Science Camp** for school children from April 06-10, **2015** at Sir Padampat Singhania University, Udaipur, Rajasthan.

The topic of talk was:

- ◆ ***Practicing Probability and Statistics***

- **Five Invited lectures** at the **Workshop on Research Fundamentals and Data Analytical Tools** organised by **All India Management Association - Centre for Management Education, Delhi** from 23-27 July **2013**.

The topics of talks were :

- ◆ ***Evolution and Principles of Modern Time Series***
- ◆ ***Univariate Stationary Processes - an Overview***
- ◆ ***Linear Regression Models versus Lag Models - Forecast Evaluation using EViews***
- ◆ ***Nonstationarity - Unit roots and Test of Causality***
- ◆ ***Modelling the variance using Generalised Family of Conditional Heteroscedasticity in Time Series - concepts and applications using EViews***

- **Two Invited lectures** in the **Refresher Course for Library and Information Sciences, University of Delhi** on **02/07/12**.

The topics of talks were

- ◆ ***Data Analysis and Simulation***
- ◆ ***Modelling Discrete Events***

- **Five Invited lectures** at **International workshop on Geometric Morphometrics** organized by the **Centre for Environmental Management of Degraded Ecosystems, University of Delhi** under **AICOPTAX** scheme of the **Ministry of Environment & Forests, Government of India** on **20/03/12** and **28/03/12**.

The topics of talks were:

- ◆ ***Fundamentals of Matrix Algebra***
- ◆ ***General Linear Model***
- ◆ ***Exploratory and Confirmatory Factor Analysis***
- ◆ ***Principal Component Analysis, Canonical Correlation and Hotelling T^2***
- ◆ ***Multivariate Inference using SPSS***

- **Four Invited lectures** at the **Department of Library and Information Sciences, University of Delhi** on **30/01/12** and **06/02/12** under '**Lecture Series**'

The topics of talks were :

- ◆ ***Measures of Data Distribution with special reference to Library and Information science***

- ◆ *Practical Orientation using Excel spreadsheet*
- ◆ *Data Preparation and Statistical Analysis using SPSS Software*
- ◆ *Practical Orientation using SPSS Software*

- **Three invited lectures** at the **Summer school on Statistical Applications** held from 4-25 July, **2005** at Allahabad Agricultural Institute, Deemed University , Allahabad.

The topics of talks were:

- ◆ *Parametric Testing*