

CURRICULUM VITAE



Name : Digambar Tukaram Shirke
Elected Member International Statistical Institute, Netherlands

Designation : Professor and Head

Organization : Department of Statistics
Shivaji University, Kolhapur,
INDIA

Date of Birth: 11th June 1965.

Citizenship : Indian

Sex : Male

Marital Status: Married and have one Daughter and one Son.

Address for Communication

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Educational Background :

- ◆ Master of Science (Statistics) 1985-1987
Shivaji University, Kolhapur
- ◆ Junior Research Fellow, (Statistics)CSIR New Delhi, 1987.
- ◆ Doctor of Philosophy (Statistics) 1993
Shivaji University, Kolhapur
Thesis entitled "A STUDY OF THE CONFIDENCE REGIONS OF THE
PARAMETERS
Guide : Dr. R. N. Rattihalli

Courses Taught

M.Sc. Statistics, M.C.A., M.Phil (Statistics), M.Sc. Actuarial Statistics, M.B.A.

Knowledge of Software : SYSTAT, MINITAB, R, SPSS

Programming Language : BASIC, FORTRAN, PASCAL, and C.

Scholarships/ Prizes/ Awards/ Ranks etc. to the credit and Memberships:

- Stood **FIRST** in the order of **MERIT for B.Sc.** Exam. in all Science subjects(1985).
- Stood **FIRST** in the order of **MERIT for M.Sc.** Exam. in all Science subjects(1987).
- Jawaharlal Nehru Memorial Fund **Award** in the recognition of **academic excellence** (1984-85).
- Jawaharlal Nehru Memorial Fund **Award** in the recognition of **academic excellence** (1986-87).
- **Best Post-graduate Teacher Award** of Shivaji University, Kolhapur 2011
- **Summer Research Fellowship 2012 by Indian Academy of Sciences, India.**
- State Government **Scholarship** (1977).
- National **Merit Scholarship** (1985-1987).
- Shriman Ganpati Ramshet Warange **Prize** from Shivaji Univ. (1985).

Associations :

- Elected Member **International Statistical Institute**, Netherlands
- Life Member, **International Indian Statistical Association, USA**
- Life Member, **Indian Society for Probability and Statistics**
- Life Member, and President : **Shivaji University Statistics Teachers Association**

Positions held :

- **Research Fellow** : July 1987 to April 1990. Department of Statistics, Shivaji University, Kolhapur. (funded by Council of Scientific and Industrial Research, Govt. of India)
- **Lecturer** : May 1990- April 1995. Department of Statistics, Shivaji University, Kolhapur.
- **Lecturer in Senior Grade** : : May 1995 to April 2001. Department of Statistics, Shivaji University, Kolhapur
- **Reader** : May 2001 to Feb. 2005. Department of Statistics, Shivaji University, Kolhapur
- **Professor** : March 2005 onwards. Department of Statistics, Shivaji University, Kolhapur
- **Head** : June 2005 –May 2008. **June 2009** – till date Department of Statistics, Shivaji University, Kolhapur.
- **Registrar, Shivaji University as an additional responsibility** (Aug 2006- Dec. 2007, 1-1-2009 to 4-8-2009 and 8-3-2010 to 14-06-2010)

University Authorities:

- Member, **Senate**, Shivaji University, Kolhapur (2005-2008, 2010-till date)
- Member, **Management Council**, Shivaji University, Kolhapur (2010 onwards till date)
- Member, **Purchase Committee**, Shivaji University, Kolhapur
- Member, **Finance and Accounts Committee**, Shivaji University, Kolhapur (2010- till date)
- Member, **Statute Committee**, Shivaji University, Kolhapur
- Chairman, **Furniture Committee**, Shivaji University, Kolhapur (2009-2012)
- Member, **Board of Studies**:
 - Shivaji University, Kolhapur
 - Bangalore University, Bangalore
 - Solapur University, Solapur
 - SIBER- An Autonomous Institute, Kolhapur
- Member of **Faculty of Science**:
 - Shivaji University, Kolhapur
- Member, **Research and Recognition Committee**
 - Shivaji University, Kolhapur
- Member **Board of Examination**:
 - Shivaji University, Kolhapur
 - Karnataka University, Dharwad

- Member, **Academic Council**, Shahu Institute of Business Education and Research , An Autonomous Institute

Member of Committees :

- **XII Five Year Plan Proposal**, Shivaji University, Kolhapur (Chairman)
- **University Budget** (2011-12,2012-13,2013-14) Preparation Committee
- E-Learning Project, Adult and Continuing Education Department
- **DST PURSE** scheme Programme Implementation
- UGC additional funds for **Infrastructural Development**.
- Apex Committee- **Lead College Scheme**
- **Teaching Learning and Evaluation Criterion- NAAC** Reaccreditation (Co-ordinator)
- Steering Committee - **NAAC Reaccreditation**
- Steering Committee - **UGC XI plan Proposal preparation** and visit of UGC team
- IT-Audit
- Special Technical Committee

Research Schemes/Projects completed : 07.

PI-Major Research Projects : 02 (UGC, DEC)

PI-Minor Research Projects : 03 (UGC, University)

CO-PI : Major Research Projects : 04 (UGC, DST, BNRS)

Current Research Interests :

- Statistical modeling and related inference
- Statistical Control Charts Data Mining .

Reviewer :

- Invited Reviewer for : American Mathematical Society.
- Referee for :National and International Research Journals, which include Journal of Indian Statistical Association, Communications in Statistics, Journal of Applied Statistics, etc.

Research Publications :Total : 48 International : 36 National : 12

Books/Articles written :

1. Co-author : Mathematics and Statistics for Management. For MBA Part-I **Shivaji University, Kolhapur.**
2. Contributed to “ High Performing Organizations- Issues and Challenges” **Tata McGraw Hill Publishing** 2008.
3. Contributor to : Epidemiology, Health and Population (Statistical Applications0 – **Vedams eBooks (P) Ltd.**
4. Contributor to : Biostatistical Aspects of Health and Epidemiology (2002)- **Eastern Book Company.**
5. Article published in **Daily Sakal** “ *Duskalache Niyojan Sukalamadhe*” 2006
6. Popular Article “*Phasave Aakade, Khelivanare Garudi aani Dolanare amhi-tumhi*”

Research Publications :

1. D. T. Shirke and R. N. Rattihalli (1992) An improved confidence region for the common mean vector of two multivariate homoscedastic normal distributions. **Communications in Statistics. Theory and Methods** 21 (5) 1319-1325.
2. D. T. Shirke (1996) A note on confidence interval for the common mean of two normal distributions Bulletin of Pure and Applied Sci. 15(E), (2) 135-139.
3. D. T. Shirke and R. N. Rattihalli (1997) UMA confidence interval for the parameter of the family of distributions involving truncation parameter. Bulletin of Pure and Applied Sci. 16 (E), (2) 165-170.
4. D. T. Shirke (1999) A note on pretest estimation for some discrete distributions. **Comm. Stati. Simu. and Compu** 28., (2) 431-439.
5. D. T. Shirke and B. J. Jagadale (2000-2001) Pretest estimation for the mean of Poisson Distribution **Jr. Indian Society for Prob. & Statist.** pp. 581-591.
6. D. T. Shirke and K. M. Nalawade (2002) Pretest estimation for the parameter of Power Series Distribution. **Statistical Methods** Vol.4., No. 2 99-112.
7. D. T. Shirke S. V. Kakade and others (2002) QTc Interval in AMI and Normal Subjects- A Statistical Comparison. **Epidemiology, Health and Population.** 121-129.

8. D. T. Shirke & K. T. Nalawade (2003) Estimation of the parameter of binomial distribution in presence of prior point information. **Jr. Indian Statistical Association**. Vol. 41, No.1pp117-128.
9. Kumbhar R. R. Shirke D. T (2004) Tolerance limits for lifetime distribution of k -unit parallel system. **Journal of Statistical Computation and Simulation**, Volume 74, Issue 3, 2004, pp201 – 213.
10. Shirke, D. T. (2004) Shrinkage estimation of the scale parameter. **J. Indian Statistical Association** Vol. 42, No.1, 121-128.
11. Kumbhar R. R. Shirke D. T. Kundu, D.(2005) Tolerance intervals for exponentiated scale family of distributions **Journal of Applied Statistics**, Volume 32, Issue 10December 2005 , pages 1067 – 1074.
12. Shirke, D.T. and Kakade, C.S.(2006): On exponentiated lognormal distribution, **International Journal of Agricultural and Statistical Sciences**, Vol. 2, No. 2, pp 319-326.
13. Patil M. K. and Shirke D. T. (2007) Testing parameter of the power series distribution of a zero inflated power series model. **Statistical Methodology**, Vol. 4, Issue 4, pp 393-406
14. Shirke, D.T. and Kakade, C.S.(2007): Exponentiated Gumbel distribution, **TRAJECTORY**, Vol.15, No.1,
15. Shirke, D.T. and Kakade, C.S.(2007): Some inferences on exponentiated Gumbel distribution, **International Journal of Agricultural and Statistical Sciences**, 3, 1,pp 92–106.
16. Pandit P. V. and Shirke D. T. (2006) A note on repeated significance test procedure for testing exponentiality against IFRA alternatives. **Statistical Methods**. Volume 8, Number 2, pp. 206 -212.
17. Shirke, D.T. and Kakade, C.S.(2007): Inference of $P(Y<X)$ for Exponentiated Scale Family of Distributions, **Journal of Indian Statistical Association**Vol 45, No. 1
18. Shirke, D.T., Kakade, C.S. and Kundu, D.(2007): Inference for $P(Y<X)$ in Exponentiated Gumbel Distribution. **Journal of Statistics and Applications**. Vol. 3, No. 1-2, 2008, 121-133
19. Shirke, D.T. and Kakade, C.S.(2007): Tolerance interval for Exponentiated Exponential distribution Based on Grouped Data, is accepted in **International Journal of Agricultural and Statistical Sciences**, Vol.3, No. 2.
20. Ghute V. B. and Shirke D. T. (2007) "Joint Monitoring of Multivariate Process Using Synthetic Control Charts", **International Journal of Statistics and Management Systems**, Vol.2, 129-141.
21. Ghute V. B. and Shirke D. T. (2007) "Robustness of Multivariate Synthetic Control Chart to Non-normality", **TRAJECTORY** Vol.15, No.1, 35-49.

22. Mahadik S. B. and Shirke D. T. (2007) Economic Design of a Modified Variable Sample Size and Sampling Interval \bar{X} Chart, **Economic Quality Control**, Vol. 22, No. 2 pp 273-293.
23. Mahadik S. B. and Shirke D. T. (2007) On the Superiority of a Variable Sampling Interval Control Chart. **Journal of Applied Statistics**, 2007, vol. 34, issue 4, pages 443-458.
24. Ghute V. B. and Shirke D. T. (2008) "A Multivariate Synthetic Control Chart for Process Dispersion", **Quality Technology and Quantitative Management**. Vol. 5, No. 3, pp. 271-288.
25. Ghute V. B. and Shirke D. T. (2008) "A Multivariate Synthetic Control Chart for Monitoring Process Mean Vector", **Communications in Statistics-Theory and Methods**. Vol. 37, Issue 13 pp. 2136-2148.
26. Mahadik S. B. and Shirke D. T. (2008) A Special Variable Sample Size and Sampling Interval Chart. **Communications in Statistics—Theory and Methods**, 38: 1284–1299, 2009.
27. Shirke D. T., Gulati S and Kumbhar R. R. (2009) Upper Tolerance Intervals for Exponential Distribution based on grouped data. **International Journal of Intelligent technologies**. 2, 2, 89-107.
28. Pawar V. Y. and Shirke D. T. (2010) A Nonparametric Synthetic Control Chart **Comm. in Statistics - Simulation and Computation** Volume 39, Issue 8, 1493-1505.
29. Patil M. K. and Shirke D. T. (2011) Tests for equality of inflation parameters of two Zero Inflated Power Series Distributions. **Comm. in Statistics - Theory and Methods**, Vol 40, 14, 2539 – 2553
30. Khilare, S. K. and Shirke D. T. (2010) A Nonparametric Synthetic Control Chart Using Sign Statistic. **Comm. in Statistics - Theory and Methods**, 39, 18 pp 3282-3293.
31. Kakade S. V., Kadam R. N., Shirke D. T., Durgawale P. M., Kakade R. V., Kadam Y. R. Sansuddi A.S.(2010) A study of some clinical variables in predicting outcome after acute Myocardial infraction. **J. Indian Med. Assoc.**, 108, 5, 301-304.
32. Mahadik S. B. and Shirke D. T. (2011) A special variable sample size and sampling interval Hotelling's T² chart. **International Journal of Advanced Manufacturing Technology**, Vol. 53, No. 1-4, 2011, pp. 379-384.
33. Ghute V. B. and Shirke D. T.(2011) A Bivariate Nonparametric Synthetic Control Chart for Monitoring Process Location. **Proceedings of International Congress on Productivity, Quality, Reliability and Modeling**. Vol. 1, pp 668-661.
34. Sakate D. M., Kashid D. N. and Shirke D. T.(2011) Subset Selection in Poisson Regression. **Journal of Statistical Theory and Practice**. Vol 5, No. 2. pp. 207-219.
35. Patil K. M. and Shirke D. T.(2011) Bivariate Zero-inflated Power Series Distribution. **Applied Mathematics**, Vol. 2, pp. 824-829.

36. Khilare S. K. and Shirke D. T. (2012) Nonparametric Synthetic Control Charts for Process Variation. **Quality and Reliability Engineering International**. Vol. 28, No. 2, pp 193-202.
37. Ghute V. B and Shirke D. T. (2012) A Nonparametric Signed-Rank Control Chart for Bivariate Process Location. **Quality Technology and Quantitative Management**. Vol, 9, No. 4, 317-328.
38. Ghute V. B and Shirke D. T. (2012) Bivariate Nonparametric Synthetic Control Chart Based on Sign Statistic. **Journal of Industrial and Systems Engineering** Vol. 6, No. 2, pp 108-121.
39. K. G. Potdar and D. T. Shirke (2012) Inference for the distribution of a k-unit parallel system with Exponential distribution as the component Life Distribution based on Type-II Progressively censored sample, **Int. J. Agricult. Stat. Sci.** Vol 8, No. 2. Pp 503-517.
40. Ghute V. B. and Shirke D. T.(2013) A Multivariate Moving Average Control Chart for Mean Vector. **Journal of Academic and Industrial Research**, Vol.1 Issue 12. 795-798.
41. Ghute V. B. and Shirke D. T.(2013) Distribution-free Control Chart for Bivariate Process. **Journal of Academic and Industrial Research**, Vol.1 Issue 11. 703-705.
42. Potdar K. G. and Shirke D. T. (2013) Reliability Estimation for the Distribution of a k-unit Parallel System with Rayleigh Distribution as the Component Life Distribution. **International Journal of Engineering Research and Technology**. Vol. 2, No. 8., 2362-
43. Potdar K. G. and Shirke D. T. (2013) Inference for the Parameters of Generalized Inverted Family of Distributions. **ProbStat Forum**, Vol. 06, pp. 18-28.
44. Khilare S. K. and Shirke D. T. (2012) A Nonparametric Side-Sensitive Synthetic Control Chart Using Sign Statistic. **International Journal of Global Research in Science and Technology**, Vol. 1, Issue 1. Dec.-2012; Volume No.1, 79-91.
45. Dhumal B. R. and Shirke D. T.(2013) A modified one-sample test for Goodness-of Fit. **Journal of Statistical Computation and Simulation**. DOI:10.1080/00949655.2013.825720.
46. Kumbhar R R and Shirke D T (2013) A note on β -content γ -level tolerance interval for IFR class of distributions, **International Journal of Engineering Research & Technology**, 2, 9, pp. 911-918.
47. K. G. Potdar and D. T. Shirke (2014) Inference for the scale parameter of lifetime distribution of k-unit parallel system based on progressively censored data, **Journal of Statistical Computation and Simulation**, 84:1, 171-185.
48. B. R. Dhumal and D. T. Shirke (2014) A modified test for testing exponentiality using transformed data, **Journal of Statistical Computation and Simulation**, 84:2, 397-403.

Particulars about research work directed M. Phil./Ph.D.

Guidance -M. Phil. Awarded : (Topic and Name of the Researcher)

1. A Study of Fixed- width Confidence Intervals (M. S. Shirke)
2. Software Reliability Modeling (N. P. Madhure)
3. On Process Capability Indices and Related Inference.(S. B. Mahadik)
4. A study of Nonparametric Control Charts.(S. P. Dharigauda)
5. Applications of Stochastic Ordering. (R. M. Mirajkar)
6. On inflated Models (M. K. Patil)
7. Markov Chain Monte Carlo Methods and Applications (K. G. Potdar)
8. Generalized Confidence Intervals (Godase S. S.)

Guidance- Ph. D. Awarded : (Topic and Name of the Researcher)

1. Estimation Procedures Based on Preliminary test and Shrinkage Technique for the Parameter of Discrete Distributions. (K. M. Nalawade)
2. A Study of Tolerance Intervals for Some Non-normal Distributions.(R. R. Kumbhar)
3. On Variable Sampling Rate Techniques in Statistical Process Control. (S. B. Mahadik)
4. Exponentiated Family of Distributions (C. S. Kakade)
5. Some Contributions to Multivariate Statistical Process Control (V. B. Ghute)
6. On Zero-inflated Models and Related Inference (M. K. Patil)
7. Statistical Process Control for Fraction Nonconforming (S K Khilare)
8. Some contributions to the inference for life time distributions (K G Potdar)

Collaborative Research Work :

1. Prof. D. Kundu, Deptt. of Mathematics, Indian Institute of Technology, Kanpur, INDIA
2. Dr. P. V. Pandit. Dharwad.BangaloreUniversity, Bangalore.INDIA
3. Prof. Sneh Gulati, Florida International University, Miami. USA

Participation in National/International Conferences/Workshops :

- Attended and presented research paper in more than **20 National and International conferences.**, which include- International Conference on Interdisciplinary Mathematical and Statistical Techniques Sept. 1-4, 2006 organized at Lisbon, **Portugal** and International conference organized by International Indian Statistical Association at North Carolina State University, **USA (April 21-24, 2011)**
- Visited and delivered a talk on ‘Combining Control Charts’ at Department of Statistics, Dortmund University, Dortmund **Germany**.

- Delivered series of lectures on Multivariate Data Analysis in a Winter School at ASU, ISI Kolkata, **March, 26-30, 2008, March, 29-31, 2009, March, 22-27, 2010**
- Delivered series of lectures on FINANCIAL ECONOMICS at Central University of Rajasthan, Jaipur, **August, 16-23, 2010**
- Delivered series of lectures (about 16 hours) on FINANCIAL ECONOMICS through SIT (Department of Science and Technology) from Shivaji University to Central University of Rajasthan. (30th Nov- 10 Dec. 2010)
- Delivered number of '**Popular talks**' for undergraduate students of Statistics and other disciplines (**Pharmacy, Management, Economics, Education**)
- Delivered talks on **Preparation of Research Projects** for College Teachers at Yashwantrao Chavan Mahavidyalaya Warananagar, YashavantCollege, Islampur, DRK college of Commerce, Kolhapur, SGMCollege, Karad, YC College of Science, Karad, The New College, Kolhapur, LBS Mahavidyalay, Satara.
- Delivered number of popular lectures for college teachers/researchers on Statistics, Research Methodology, Research article writing, Minor and Major Research proposal writing, problem formulation etc.

Workshop/Training program organized :

- Coordinator- **National Workshop** Markov Chain Monte Carlo Methods (Aug-2006)
- Organized on-site training on "Statistical Process Control" for local industries.
- Worked on "Variation in the milk pouching process" and submitted report to a local Milk dairy.
- Organized a training program on "Design of Experiments" at an industry involved in manufacturing of submersible pumps..
- Co-ordinator- **National Seminar** on Statistical Inference and its Applications (22-23, May 2009)
- Convener- National Symposium on Business Analytics and Data Mining (March 2014)

Other Responsibilities held in the past:

- Co-ordinator **University Industry Interaction Cell.**
- Chief Rector- **Dr. Appashaseb Pawar Vidyarthi Bhavan** (more than three years).
- Rector, Boys' Hostel.