

Faculty Profile



Dr. M. USHA, M.Sc., M. Phil., Ph. D
Associate Professor

HIGHLIGHTS:

- Number of Journal Publications: 27
- H-Index: 14
- Project Funding Received: Nil
- Patents Published: Nil
- Patents Granted: Nil

PROFESSIONAL LINKS:

- Scopus ID: <https://www.scopus.com/authid/detail.uri?authorId=22836700400>
- Scopus Link: <https://www.scopus.com/results/results.uri?st1=sampling+plan&st2=&s=AUTH%28usha++and+balamurali%29&limit=10&origin=searchbasic&sort=plf-f&src=s&sot=b&sdt=b&sessionSearchId=9189b117d513ea885eb5bd1e887dc0e0>
- Google Scholar ID: <https://scholar.google.com/citations?hl=en&user=k8etk0EAAAAJ>
- Anna University Faculty ID: 310160
- AICTE Faculty ID: 1-3541139913
- Anna University Supervisor ID: 3070048
- LinkedIn: <https://www.linkedin.com/in/usha-mahalingam-96a57b121/>

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 20 Years
- Industrial Experience: NIL

List of Papers Published

- (1) Optimal Designing of Variables Quick Switching Sampling System by Minimizing Average Sample Number, *Journal of Applied Statistical Science*, Vol.19, No.3, pp.51-66.**
- (2) Variables Quick Switching System with Double Specification Limits”, *International Journal of Reliability, Quality and Safety Engineering*, Vol.19, No.2, pp.1250008-1-17.**
- (3) A New Failure Censored Sampling System for Weibull Distribution”, *International Journal of Performability Engineering*, Vol.9, No.1, pp.3-12.**
- (4) Optimal Designing of Variables Chain Sampling Plan by Minimizing the Average Sample Number”, *International Journal of Manufacturing Engineering*, Vol. 2013, Article ID 751807, 12 Pages, doi.10.1155/2013/751807.**
- (5) Optimal Designing of Variables Quick Switching System Based on the Process Capability Index C_{pk} ”, *Journal of Industrial and Production Engineering*, Vol.31, No.2, pp.85-94.**
- (6) Optimal Designing of Variables Sampling Plan for Resubmitted Lots”, *Communications in Statistics- Simulation and Computation*, Vol.44, No.5, pp.1210-1224.**
- (7) Optimal Designing of Variables Tightened-Normal-Tightened Sampling Scheme by Minimizing the Average Sample Number”, *International Journal of Industrial and Systems Engineering*, Vol.21, No. 1, pp.99-118.**
- (8) Designing of Bayesian Multiple Deferred State Sampling Plan Based on Gamma-Poisson Distribution, *American Journal of Mathematical and Management Sciences*, Vol.35, No.1, pp.77-90.**
- (9) A New System of Skip-lot Resampling Schemes, *Communications in Statistics-Simulation and Computation*, Vol.46, No.2, pp. 1481-1491.**
- (10) Designing of Variables Quick Switching Sampling System by Considering Process Loss Functions”, *Communications in Statistics-Theory and Methods*, Vol.46, No.5, pp. 2299-2314.**
- (11) Designing of Multiple Deferred State Sampling Plan for Generalized Inverted Exponential Distribution”, *Sequential Analysis*, Vol.36, No.1, pp.76-86.**
- (12) Developing and Designing of an Efficient Sampling System Based on Process Capability Index”, *Journal of Statistical Computation and Simulation*, Vol.87, No.7, pp.1401-1415.**
- (13) Optimal Designing of Multiple Deferred State Sampling Plan for Weibull Distributed Life times Assuring Mean Life”, *American Journal of Mathematical and Management Sciences*, Vol.36, No.2, pp.150-161**

- (14) **Designing of a Mixed Chain Sampling Plan Based on the Process Capability Index C_{pk} with Chain Sampling as Attributes Plan”, *Communications in Statistics-Theory and Methods*, Vol No. 46, Issue No.21; Page No: 10456-10475**
- (15) **A New Mixed Repetitive Group Sampling Plan Based on Process Capability Index for Product Acceptance”, *International Journal of Quality and Reliability Management*, Vol No. 45, Issue No. 14, pp 2499-2520**
- (16) **Economic Design of Quick Switching Sampling System Assuring Weibull Distributed Mean Life”, *Communications in Statistics-Theory and Methods*, Vol No. 47, Issue No. 2, pp 385-398**
- (17) **Designing of Variables Modified Chain Sampling Plans Based on the Process Capability Index with Unknown Mean and Variance”, *American Journal of Mathematics and Management Sciences*, Vol No. 36, Issue No. 4, pp 363-377**
- (18) **Optimal Designing of Multiple Deferred State Sampling Plan for Assuring Percentile Life under Weibull Distribution”, *International Journal of Advanced Manufacturing Technology*, Vol No. 93, pp 3095-3109**
- (19) **Optimal design repetitive group sampling plans for Weibull and gamma distributions with applications and comparison to the Birnbaum–Saunders distribution, *Journal of Applied Statistics*, Vol No. 45, Issue No. 1, pp 2499-2520**
- (20) **Optimal Designing of Quick Switching Sampling System Assuring Percentile Life Under Weibull Distribution”, *Communications in Statistics-Simulation and Computation*, Vol No. 47, Issue No. 5, pp 1550-1563**
- (21) **Optimal Designing of Chain Sampling Plan for Weibull Distributed Percentile Life Assurance”, *International Journal of Mathematics and Computation*, Vol 29, Issue No.1, pp 94-105**
- (22) **Determination of Optimal Quick Switching System with Varying Sample Size for Assuring Mean Life under Weibull Distribution”, *Sequential Analysis*, Vol No.37, Issue No.2, pp 222-234**
- (23) **Determination of an Efficient Variables Sampling System Based on the Taguchi Process Capability Index, *Journal of the Operational Research Society*, Vol No. 70, Issue No.4, pp 420-432**
- (24) **Economic design of Quick Switching Sampling System for Resubmitted Lots, *Communication in Statistics - Theory and Methods*, Vol No. 48 Issue No. 16, pp 4019-4033**
- (25) **Economic design of Quick Switching Sampling System for Resubmitted Lots under Gamma-Poisson distribution”, *American Journal of Mathematical and Management Sciences*, Vol No. 41, Issue No. 1, pp 24-37**

(26) Usha Mahalingam and Saranraj Loganathan (2023). Impact on Item Analysis of MCQs in Engineering Mathematics. AIP Conference Proceedings.

(27) Book Chapter (Apr 2026): Embedding Fairness and Resilience: Human-Centered Leadership in AI-Driven Workplaces (Chapter 5), IGI Global Publications.

INTERNATIONAL EXPOSURE:

Reviewer in the following Journals:

- 1 Journal of Operational Research Society**
- 2 Journal of Applied Statistics**
- 3 Sequential Analysis**
- 4 Journal of Computation and Simulation**
- 5 American Journal of Mathematical and Management Sciences**
- 6 Communications in Statistics – Simulation and Computatio**

AREA OF SPECIALIZATION:

- Statistical Quality Control

Ph.Ds AWARDED WITH DETAILS: NIL

S:No	Name of Scholar	Title of Thesis	Year of Completion	Full Time/Part Time

Ph.Ds GUIDING:

- **Full Time Scholars:**
- **Part Time Scholars :**

SPONSORED RESEARCH / FUNDING APPLIED / CONSULTANCY:

Co-investigator of the Project entitled “Developing and Designing of Special Purpose Sampling Plans under the Weibull Life Time Model”, DST-SERC during Nov 2014 - Oct 2017.

PATENTS PUBLISHED/GRANTED: NIL

COURSES CERTIFIED:

- Certification in Artificial Intelligence and Data Science (pursuing)
- NPTEL online course “ Introduction to R Software’, IIT Kanpur during Jul – Sep 2017
- NPTEL online course “Accreditation and Outcome Based Education – IIT Kharagpur, Sept– Oct 2025

ACHIEVEMENTS AND AWARDS:

- H index award given by Mepco Schlenk Engineering College during 2022-2023

SPECIAL SESSIONS DELIVERED: NIL**CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:**

S. No	Program	Title	Duration	Institution
1	Workshop	Fifth International Workshop on Graph Labellings	January 7-10, 2009	KLU, Krishnan Koil
2	Short term course	Statistical modeling and simulation	June 1-3, 2009	KLU, Krishnan Koil
3	IMS Conference	75 th Annual Conference	December 27-30, 2009	KLU, Krishnan Koil
4	Workshop	Mathematical modeling and simulation	July 7-14, 2010	KLU, Krishnan Koil
5	International conference	Mathematical modeling and applications to industrial problems	March 28-31, 2011	NIT, Calicut
6	Workshop	Intellectual Property Rights	August 20,2011	KLU, Krishnan Koil
7	FDP	Role of Laboratory courses in Awakening learning/Research interest in Students	September 17, 2011	KLU, Krishnan Koil
8	Microsoft	SAKSHAM-IT Champion Training Program	November 30-December 9, 2011	KLU, Krishnan Koil
9	National Seminar	Research and Consultancy Services	December 30, 2011	KLU, Krishnan Koil
10	National Conference	Theoretical Computer Science and Discrete Mathematics	January 9-11, 2012	KLU, Krishnan Koil
11	Workshop	Introduction to LATEX	Feb 6, 2012	KLU, Krishnan Koil
12	FDP	The Art of Innovative Teaching	April 25, 2013	Park College of Eng. & Tech, Coimbatore.
13	International Conference	International Conference on Number Theory	December 21 & 22, 2016	SRC, SASTRA University, Kumbakonam
14	Training Programme	Advanced Training Programme in Algebra and Analysis	December 7-9, 2017	Mepco Schlenk Engineering College, Sivakasi

15	Induction Programme	Teaching Methodologies and Techniques for Budding Faculty of Technical Institutions	May 14-19, 2018	Mepco Schlenk Engineering College, Sivakasi
16	Workshop	Two days National Level Workshop on " Art of Writing a Report, Research Paper and Thesis"	August 13-14, 2018	Sri Ramakrishna Engineering College, Coimbatore.
17	Workshop	National level Workshop on Semi graphs and Generalized Graph Structures	Oct 30 to Nov 2, 2018	V.V. Vanniaperumal College for Women, Virudhunagar.
18	FDP	Pedagogical Aspects for an outcome based education	Nov 29 – Dec 01, 2018	Mepco Schlenk Engineering College, Sivakasi
19	Workshop	Three days National Workshop on Research Issues in Graph Theory	Dec 20 to Dec 22,2020	Mepco Schlenk Engineering College
20	Workshop	Complex Analysis and its Applications	March 12-13, 2020	Mepco Schlenk Engineering College
21	FDP	PYTHON-3.4.3	May 4-8,2020	Sathyabama Institute of Science and Technology, Chennai
22	FDP	A 7 Day International FDP on Enhancing Digitisation Teaching in the Post-COVID Period	June 18-24,2020	Mepco Schlenk Engineering College
23	FDP	Mathematical Modeling for Data Analytics and Engineering	June 29 to July 5,2020	Kumaraguru College of Technology
24	Workshop	Online workshop on Algebra and Analysis	Oct 25 to Nov 15,2020	Mepco Schlenk Engineering College
25	FDP	Emerging Research Directions in Mathematics and Statistics	Jan 2025	SRM University
26	FDP	New Dimensions in Mathematical and Statistical Research	Dec 2025	SRMIST

List of Papers Presented in Conferences

- (1) **Evaluation of MLP-rx1Continuous Sampling Plan Using a Markov Chain Model, Paper Presented at the International Conference on Mathematical Modelling and Applications to Industrial Problems (MMIP 2011), NIT, Calicut, March 28-31, 2011.**
- (2) **Designing of Quick Switching Sampling System under Weibull Distribution Based on Truncated Life Test”, Paper Presented in the International Conference on Statistics for Twenty-first Century-2015 (ICSTC 2015), Organized by Department of Statistics, University of Kerala, India during 17-19, December 2015.**
- (3) **Optimal Designing of Chain Sampling Plan for Percentile Life Assurance under Weibull Distribution”, Paper Presented in National Conference on Pure and Applied Mathematics (NCPAM-17), Organized by Department of Mathematics, SASTRA University, India, 24th March, 2017.**

(4) Optimal Designing of Quick Switching System for Resubmitted Lots”, Paper Presented in National Conference on Pure and Applied Mathematics (NCPAM-17), Organized by Department of Mathematics, SASTRA University, India, 24th March, 2017.

PROFESSIONAL MEMBERSHIPS:

- AICTE

OTHER DETAILS (If any):

- 1. Meditation Trainer, Heartfulness, SRCM, Kanha Shanti Vanam, Hyderabad**
- 2. Diploma in Yoga**