

Name: Dr. Anima Bag

Designation:

Assistant Professor,
Department of Statistics,
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WOS:IIS-5046-2023

Scopus ID:57210189441



Area of Interest

Time Series Analysis, Forecasting, Regression Analysis, Inventory Control, Demography, Statistical Quality Control, Survey sampling and Indian Official Statistics, Descriptive Statistics, Statistical Methods, Integrated supply chain models.

Courses taught

Statistical Quality Control, Time Series Analysis, Regression Analysis, Survey Sampling & Indian Official Statistics, Mathematical Analysis, Demography and Vital Statistics, Econometrics.

Career

Assistant Professor (25 March, 2022 – Present), Department of Statistics, Rama Devi Women's University, Bhubaneswar.

Head of the Department: (31st March, 2022 – 04th August, 2025),

Lecturer in C.V. Raman Global University, Bhubaneswar (12 September, 2007 – 20 February, 2018)

Lecturer in IMAGE, Bhubaneswar (1st March, 2006 – 30 April, 2007)

Teaching Experience

17 years

Research Experience

11 years

Administrative/Executive Experience

- HOD, Dept. of Statistics, Rama Devi Women's University (31st March, 2022- 4th August, 2025).
- Chairman, Board of Studies, Dept. of Statistics, Rama Devi Women's Women's University (2022-present)
- Academic Council Member, Rama Devi Women's University (2022-2025).
- Board of Studies member, Dept. of Statistics, Utkal University (2023-present)
- OIC, Self Defence, Rama Devi Women's University (2022-24)
- Nodal Officer, Census Data Research Workstation, Rama Devi Women's University (2023-present)
- Library Committee member, Rama Devi Women's University (2022-present).
- Member of SC/ST & Equal Opportunity Cell, Rama Devi Women's University (2022-present).
- Academic Audit Committee member, RDWU(2022-present)
- Member, E-Learning centre, RDWU(2024-present)

Book Publications

- [1] "First Steps into Cloud computing" published on 28 April, 2025 by Expert Notes Publishers.
- [2] "From Linear Regression to Deep Learning" published on 14th May, 2025 by Expert Notes Publishers
- [3] "Artificial Intelligence (AI) and Machine Learning Basics" published on 23rd May, 2025 by Xoffencer International Book Publication House.
- [4] "Operations Research and Optimization Techniques" published in 20th June, 2025, self published.

Book chapter Publications

- [1] "Machines Learning in Networking" **Hyper Intelligent Networks; Exploring the future of connectivity for society 5.0" Series: Industry 5.0 Transformation Applications**
- [2] "Optimal Inventory Model for Deteriorating Items with Permissible Delay in Consideration to Default Risk", **Research Updates in Mathematics and Computer Science**, Volume 9, *Pages: 69-80*, 2024.
- [3] "Forecasting the impact on crude oil prices in India during Russian Ukrain war", **Applications of Statistics & Artificial intelligence in emerging scenarios-2023**, *pages:1-9*, 2023.

Patents

1. "Car-top Panoramic Traffic Viewer", Indian Patent.
2. "Air Hammer for On-Site Pavement Strength Testing", Indian Patent.
3. "A Block Chain-based Secure Data Management System for Internet of Things (IoT) devices", Indian Patent.

Awards & Honors

- Nobel Researcher award in 2018 by International Journal for Research under Literal Access (IJRULA).
- VIJ national award in 2023.
- Venus International Women's Award in 2024.
- Rising Women of India Award, 2024; Leading Educationist of India award,2024 and World Dynamic Achievers of Excellence Award, 2024 by Friendship Forum of India (FFI), New Delhi.

- Teaching and research excellence award 2025 (**Life time achievement award**) by Bhargava foundation for research and education, Dhanbad, Jharkhand.
- **Best Paper Award** in recognition of the outstanding paper contribution titled “Computational Intelligence Approach for Reliability Enhancement in IOT Environment” presented at 13th International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA-2025) organized by AI and Data Science (AI & DS) Research Group, London Metropolitan University, London, UK in collaboration with the University of Greenwich, United Kingdom.
- **Guest of Honour in ANWESHA 2.0**, a nationwide quiz contest on Official Statistics held on 18th July, 2025 organized by the National Statistics Office (NSO), Regional Office, Bhubaneswar, under the aegis of Ministry of Statistics and Programme Implementation, Govt. of India, as part of the celebration of 75 years of the National Sample Survey.

Research Guidance

- ✓ UG Projects supervised: 26

Journal publications

- [1] “An Integrated vendor-buyer supply chain model with inflation induced demand under conditional delivery” published in *International Journal of Statistics and Applied Mathematics*, Volume 10, Issue 10, page 82-89, 2025.
- [2] “Integrated Supply Chain Model with Inflation Induced Demand and Partially Backlogged Shortage” published in the journal *Investigacion Operacional*, Volume 45, No. 3, Page 410-419, 2024.
- [3] “An inventory model for perishable goods with controllable deterioration, partially backlogged shortage and advanced payment” published in the journal *International Journal of Scientific Research in Mathematical and Statistical Sciences*, Volume 10, Issue 5, 2023.
- [4] “Fuzzy inventory model with multilevel permissible delay in payments” published in the journal, *International Journal of Statistics and Applied Mathematics*, Volume 7, Issue 1, pp.146-153, 2022.
- [5] “Replenishment Model with Entropic Order Quantity for Deteriorating Items under Inflation” published in *Asian Journal of Probability and Statistics*, Volume 14, Number 3, pp.34-47, 2021.
- [6] “Optimal disposal strategy with controllable deterioration and shortage” published in the journal, *International Journal of Agricultural and Statistical Sciences*, Volume 15, Number 1, pp.271-279, 2019.
- [7] “Decision support model with price and time induced demand under multi level conditional deliveries” published in the journal, *Investigacion operacional*, Volume 40, Number 4, pp. 441-451, 2019.
- [8] “Decision support model with default risk under conditional delay” published in the journal, *International Journal of Scientific Research in Mathematical and Statistical Sciences*, Volume 5, Issue 2, pp. 40-45, 2018.
- [9] “Entropic order quantity model for decaying items with partial backlogging and lost sale” published in the journal, *International Journal of Statistics and Systems*, Volume 12, Number 4, pp. 803-812, 2017.
- [10] “A Fuzzy Non-Linear Programming Economic Order Quantity Model with Demand Dependent Unit Cost of Production under Two Constraints” published in *Journal of Supply chain and Operations Management*, Volume 13, Number 2, pp. 44-55, 2015.

- [11] “Customer Satisfaction and Prediction of Government Business in State Bank of India (SBI): A Statistical Case Analysis” published in *Journal of Business and Management Sciences*, Volume 3, Number 1, pp.20-25, 2015.

CONFERENCE PROCEEDINGS

1. Fitting of logistic regression model for prediction of likelihood of India winning or losing in cricket match”, *International Conference on Management and Information Systems*, September 18-20, 2015
2. “An Optimal Policy for a Single Vendor Single Buyer Integrated Production Inventory Model with Inflation Induced Demand Under Conditional Delivery” at **9th Annual Women’s Meet**, and international Conference, 2nd March, 2024. The conference was organized by Venus International Foundation at Chennai.

REVIEWED RESEARCH PAPERS IN JOURNALS

- (1) *Investigacion operacional*
- (2) *Asian Journal of Probability and Statistics*
- (3) *Asian Journal of Sociological Research*

PROFESSIONAL ACTIVITIES

1. Session Organizer of International Conference on Data-Processing and Networking(ICDPN-2025) organized by Institute of Technology and Business in Ceske Budejovice, Near Prague, Czech Republic, Europe on 7th-8th November, 2025.
2. Session Organizer of International Conference on Artificial Intelligence and Networking (ICAIN-2025) organized jointly by BITS, Pilani, Dubai Campus, UAE in association with the Indian Institute of Information Technology, Alahabad, India & Universal Inovators, Delhi, India on 6th-7th October 2025.
3. Moderator/Session Chair in *Eastern Regional Conference* organized by Indian Association for the Study of Population (IASP) in collaboration with Population Research Centre, Utkal University, Odisha during 17-18 October, 2024.
4. Convener in one-day workshop on ‘Uses of Census Data in Social Science Research’ organized by Census Data Research Workstation, Rama Devi Women’s University on 25.07.2024.
5. Organized a National Seminar on “Use of data for decision making” at Department of Statistics, RDWU with observation of National Statistics Day on 29.06.24.
6. Published Newsletters of Department of Statistics, RDWU named STATISTIKA-2021, STATISTIKA-2022, STATISTIKA-2023, STATISTIKA-2024 and STATISTIKA-2025.
7. Represented Rama Devi Women’s University at national level by sending two students of Department of Statistics, RDWU to avail an exposure Residential Training Programme on official Statistics every year (from 23.12.24-27.12.24; 26.12.23-29.12.23; 26.12.22-31.12.22 at National Statistical Systems Training Academy (NSSTA), Ministry of Statistics and Programme Implementations, Govt. of India, Greater Noida. It helped students to understand the enormous power of statistics and its applications.
RDWU was the only university from Odisha selected for this training.
8. Organized a Self Defence Programme on 02.01.24 at Rama Devi Women’s University.

9. Put the efforts in organizing a soft skill Programme of SC/ST Equal Opportunity Cell on 10.11.2023 at University Auditorium, RDWU.
10. As a nodal officer put the efforts in organizing the inauguration of Census Data Research Workstation by Honourable Education Minister of Odisha at Rama Devi Women's University and MoU signing Ceremony between Directorate, Census Operations, Odisha and RDWU.
11. Organized a National Workshop on 'National Statistical System & Role of National Statistics Office' at Rama Devi Women's University auditorium on 23.12.2022 funded by National Statistical Systems Training Academy (NSSTA), Ministry of Statistics and Programme Implementation, Govt. of India.
12. Initiated National Statistics Day celebration at Rama Devi Women's University in 2023 and organized the seminar on "DATA & SUSTAINABLE DEVELOPMENT" on this occasion by inviting eminent dignitaries.
13. Organized National Statistics Day and National Seminar on "USE OF DATA FOR DECISION MAKING" in the Department of Statistics on 29.06.24.
14. Organized a two-days workshop on "AI & DATA ANALYTICS" in collaboration with Data Science Stats and Facts and Dept. of Commerce, Rama Devi Women's University dated 20.11.23 and 21.11.23
15. Initiated a Practical Lab in Department of Statistics for smooth conduct of the practical of UG students.
16. Organized a webinar on Data Analysis and Visualization of Data using SYSTAT 13.2 Software on 22.11.23.
17. Organized a Seminar on "Ratio and Regression method of Estimation" in the Department on 26.11.24
18. NAAC CRITERIA-6 MEMBER, BUDGET COMMITTEE MEMBER for 2nd convocation, RDWU, HEAD(GROUND CLEANING) Intercollege women's Hokey match, 2022.

LIST OF PAPERS PRESENTED IN CONFERENCES/SEMINARS

1. "Comprehensive Study Of Existing Prediction Models For Depression In Women And Their Limitations" presented at the International Conference on Artificial Intelligence and Networking(ICAIN-2025) organized jointly by BITS, Pilani, Dubai Campus, UAE in association with the Indian Institute of Information Technology, Allahabad, India & Universal Inovators, Delhi, India on 6th-7th October 2025.
2. "Applications of AI and Machine Learning in Management Practices and Business Operations" presented at the International Conference on Computing and Communication Networks (ICCCNet-2025) organized by Manchester Metropolitan University, Manchester, United Kingdom on 1st-3rd August, 2025.
3. "Towards Robust Federated Learning in IoT Systems: A Review of Fault- Tolerance Strategies" in International Conference on Modern Sustainable Systems (CMSS-2025) Held during 12-14 August 2025 at University Teknologi MARA, Malaysia in association with RVS College of Engineering and Technology, India.
4. "A Computational Intelligence framework for fault-tolerant IoT federated Learning System" in second International Conference on Networks & Soft Computing (ICNSoC-2025) held from 12th -14th June, 2025 organized by Department of Computer science and Engineering, Vignan's Foundation for Science, Technology & Research(VFSTR), Vadlamudi, Guntur.

5. “Computational Intelligence approach for reliability enhancement in IOT environment” in 13th International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA-2025) held on 6th-7th June 2025 organized by the AI and Data Science(AI & DS) Research Group, London Metropolitan University, London, UK in collaboration with the University of Greenwich, United Kingdom.
3. “Cash discount policy for ameliorating items under controllable deterioration, promotional strategy and uncertainty” in International Conference on Application of Mathematical & OR Models for Sustainable Viksit Bharat (ICORSVB 2025) held on 21-22 February 2025 organised by Parala Maharaja Engineering College, Brahmapur, Odisha & ORSI, Bhubaneswar Chapter.
4. “A statistical analysis of the structure of population in India” in Eastern Regional Conference organized by Indian Association for the Study of Population (IASP) in collaboration with Population Research Centre, Utkal University, Odisha during 17-18 October, 2024.
5. “Promotional Strategies and Preservation Effort effects in a Fuzzy Inventory Model for Perishable Products with Shortage” in National Conference on “Statistics and Data Science for Progress and Prosperity” organized by Department of Statistics, Utkal University, Odisha during 23-24th August, 2024.
6. “Discerning the Impact of COVID-19 Pandemic on Life Expectancy of India” in A two day National Seminar on Data Driven Predictive Analytics & Modelling-2024 (DDPAM-2024) held on 19-20 March, 2024 organized by Department of Statistics, Sambalpur University.
7. “An Optimal Policy for a Single Vendor Single Buyer Integrated Production Inventory Model with Inflation Induced Demand Under Conditional Delivery” at 9th Annual Women’s Meet, 2nd March, 2024. The conference was organized by Venus International Foundation at Chennai.
8. “An integrated vendor-buyer supply chain model with inflation-induced demand under conditional delivery” in 4th International Conference on Management Research (ICMR) 2024, held on 22-23 February, 2024 organized by KSOM, KIIT University.
9. “An inventory model for ameliorating items under preservation technology and conditional delay” in National Seminar on “Statistical Thinking in Data Science and Knowledge Discovery (STDSKD-2023)” organized by School of Statistics, Gangadhar Meher University, Amruta Vihar, Sambalpur, Odisha on 26th June, 2023.
10. “A fuzzy Inventory model for decaying items with stock dependent demand and partially backlogged shortage under preservation facility” in the national seminar on Application of Statistics & Artificial intelligence in emerging scenarios-2023 (ASAIES-2023) held on 3rd March, 2023 organized by Department of Statistics, Sambalpur University.
11. “Replenishment model for decaying items with entropy in a fuzzy environment under inflation” in International Conference (Virtual Mode) on Emerging Trends in Statistics and Data Science in conjunction with 40th Annual Convention of ISPS, 7-10 September, 2021.
12. “Decision support model with default risk under trade credit policy” in International Conference on Recent Advances in Statistics and Data Science for Sustainable Development in conjunction with Indian Society for Probability and Statistics (ISPS) at Utkal University on 21st -23rd December, 2019.

13. "The vendor-buyer integrated inventory model with partial backlogging under inflation" in National Seminar on "Statistical Methodology and Data Science" organized by P.G. Department of Statistics, Utkal University during 15-16 March, 2019.
14. "An integrated supply chain model with inflation induced demand and partially backlogged shortage" in International Conference on "Next Generation Management" (ICNGM-2019)" at Regional College of Management, Bhubaneswar on March 15-16, 2019.
15. "Replenishment model with entropic order quantity for deteriorating items under inflation" in Diamond Jubilee National Convention of IIIE & International Conference on "Role of Industrial Engineering in Industry 4.0 Paradigm (ICIEIND 2018)" at Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar on September 27-30, 2018.
16. "Replenishment model with price and time induced demand under four level conditional deliveries" in National Seminar on "Statistics In Research: Trends And Applications" organized by P.G. Department of Statistics, Utkal University & Operations Research Society of India, Bhubaneswar chapter on 15th April, 2018.
17. "Fuzzy decision support model with controllable deterioration and shortages" in National Seminar on "Operational Competitiveness in service and manufacturing sector", organized by Birla School of Management, Birla Global University, Bhubaneswar on 24th February, 2018.
18. "Decision support model in an environment of market demand and deterioration" in National Seminar on "Science and Technology for Environmental Security" on the occasion of 19th Odisha Bigyan O' Paribesh Congress organized by Orissa Environmental Society and KIIT University, Bhubaneswar.
19. "Entropic Order Quantity (EnOQ) Model for Decaying Items with Partial Backordering and Lost Sale" in 48th Annual Convention of Operational Research Society of India (ORSI) and International Conference held at Institute of Technical Education and Research, Siksha 'O' Anusandhan University, Bhubaneswar, Odisha, on December 17-19, 2015.

WORKSHOPS

- [1] Participated in One Day IPR Awareness Program, jointly organized by MSME-Development and Facilitation Office (DFO), Cuttack & CSIR- Institute of Mineral Technology (IMMT), Bhubaneswar during September 4, 2025.
- [2] Participated and presented the Poster presentation of the work in REGIONAL WORKSHOP ON RESEARCH BASED PEDAGOGICAL TOOLS held in NISER, Odisha, from 27th October to 29th October 2017.

The workshop was funded by Department of Biotechnology(DBT),Govt. of India and organized by Center of Excellence in Science and Mathematics Education at IISER, Pune (Supported by MHRD, Govt. of India) and NISER. It was conducted by a team of facilitators who were trained by experts from Sheffield Hallam University.

LIST OF FDP/ INDUCTION /ORIENTATION PROGRAMMES ATTENDED

1. Successfully completed the FDP on "**Innovative Teaching through Design Thinking and Gamification**" implemented in collaboration between the SEPT Competence centre of the Leipzig University, Conoscope GmbH (Germany) and Digital Skills to Succeed Project, Deutsche

Gesellschaft fur Internationale Zusammenarbeit (ZIG) GmbH on behalf of the Ministry of Education, India and the Federal Ministry for Economic Cooperation and Development of Germany (BMZ) at Mumbai, India from 11th -14th November, 2025.

2. Successfully completed the FDP Programme on “Integrating Indigenous Knowledge System into Higher Education: Vision through NEP2020 and Beyond” in online mode organized by College Development Council(CDC) & Internal Quality Assurance Cell(IQAC), Rama Devi Women’s University, Bhubaneswar from 24.06.25 - 30.06.2025.
3. Successfully completed “One Week Online Workshop on Advanced Statistical Data Analysis using SPSS” organized by Resilient Foundation for Academic Innovation & Scientific Research(Registered with NITI Ayog, Govt. of India), New Delhi during 22-28 April, 2025.
4. Successfully completed NEP 2020 Orientation & Sensitization Programme under Malaviya Mission Teacher Training Programme (MM-TTP) of UGC organized by IIT, Kharagpur from 20.05.24 -30.05.24.
5. Successfully completed 4 weeks faculty induction programme from 20 September, 2023 – 19 October, 2023. with grade A⁺ Organized by Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of Ministry of Education.
6. Successfully completed one week Faculty Development Programme on “**ACADEMIC ADMINISTRATION**” from 12-18April, 2023 with grade A⁺ Organized by Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of Ministry of Education.
7. Participated in 5 days FDP on “**Effective Delivery of online classes and conducting of online Examination**” held on 13-17 December, 2021 organized by Dept. of I.T.M., Ravenshaw University, Cuttack.
8. Participated in ‘**seven days National FDP on Research Methodology**’ jointly organized by Indian Teacher Education Community (at Telegram) and Aravali College of Advanced Studies in Education from 5-11 August,2020.
9. Participated in **one week online FDP on Soft Computing Techniques and their applications(SCTA,2020)** organized by the Department of Mathematics of Jaypee Institute of Information Technology, Noida from July 13-18,2020.
10. Participated in one week online International FDP “**Statistical Trends and Practices in Science and Technology**” organized by Dept. of Basic Science and Humanities (Mathematics), Aditya Institute of Technology and Management from 4-8 July, 2020.

LIFE MEMBER

- **Life Member in Indian Society of Probability and Statistics (ISPS)**
- **Life Member in International Journal for Research Under Literal Access (IJRULA)**



Signature