

DR. MAHESH KUMAR PANDA  
***Department of Statistics***  
***Ravenshaw University, Cuttack***  
***Odisha***

**Designation:**

Associate Professor

**Research Area:**

Reliability Theory, Design and Analysis of Experiments, Epidemiological Studies

**Education:**

- **Ph. D., March, 2012**, *University of Delhi*, Delhi
- **M.Phil., July, 2007**, *University of Delhi*, Delhi
- **M. Sc., 2005**, *University of Hyderabad*, Hyderabad, Telangana
- **B. Sc. (Hons.), 2003**, *Gangadhar Meher (Autonomous) College, (Sambalpur University)*, Sambalpur, Odisha.

**Professional Experiences:**

- **Associate Professor** (Since April, 2022 – Continuing), Ravenshaw University
- **Senior Assistant Professor** (Since June, 2017 – April, 2022), Central University of Odisha (CUO), Koraput.
- **Assistant Professor** (June, 2013--June, 2017), CUO, Koraput.
- **Senior Biometrician** (July, 2011--June, 2013), Novartis Healthcare Private Limited, Hyderabad.
- **Guest Faculty** (July, 2008--December, 2010), Department of Statistics, University of Delhi and its constituent colleges.
- **Adhoc Lecturer** (September, 2007--April, 2008), Department of Statistics, P.G.D.A.V College, University of Delhi, Delhi.

**Awards/Grants:**

- Received a grant of € 2,500 and visited Vilnius University, Lithuania under the Erasmus Mundus project fellowship during June, 2016.
- Received OSANY AWARD from Sambalpur University for securing highest percentage in SCIENCE in the three years Degree Examination, 2003.
- Received GOLDEN JUBILLEE AWARD from G. M. (Auto.) College for securing highest percentage in SCIENCE in the three years Degree Examination, 2003.

**Publications:**

1. (With M. K. Bhoi) Association of Screen time with Depression, Anxiety and Stress for Young People (Age Group 14-25) amid Covid-19 Pandemic: A Case Study in Odisha, **Pollution and Community Health Effects**, 2023, 1(1), 1-8. *(Peer Reviewed)*
2. (With M. K. Bhoi) Health Related Quality of Life of Children and Teenager (Age group 8-18 Years) During COVID-19 Pandemic: A Case Study in Odisha, **Journal of Genetic Research and Disorders**, 2023, 1(1), 1-10. *(Peer Reviewed)*

3. (With R. P. Sahoo) *R-optimal designs for linear Log contrast model with mixture experiments*, **Communication in Statistics – Theory and Methods**, 2022, *Online Published (Web of Science/Scopus)*
4. (With R. P. Sahoo) *D-optimal designs for Scheffé's quadratic mixture model with spline involving two insensitive components*, **International Journal of Statistics and Reliability Engineering**, 2022, 9(1), 108-117 (*UGC Care list*).
5. (With R. P. Sahoo) *A-optimal designs for cubic polynomial models with mixture experiments in three components*, **Statistics and Applications**, 2022 (New Series), 22 (2), 41 – 55 (*Web of Science*)
6. *R-optimal designs for canonical polynomial models with mixture experiments*, **Calcutta Statistical Association Bulletin**, 2021, 73 (2), 146 – 161 (*UGC Care list*)
7. *Exact designs for simple linear regression model with information equivalence and loewner order dominance properties*, **International Journal of Agricultural and Statistical Sciences**, 2020, 16 (Supp-1), 1011 – 1016. (*Web of Science/Scopus*)
8. *On Moments of Order Statistics and Some Aspects of Robustness Issues of Lindley Distribution in the Presence of Multiple Outliers*, **Statistics and Applications**, 2020 (New Series), 18(1), 127- 140. (*Web of Science*)
9. *An explicit expression for moments of order statistics for four parameter generalized gamma distribution*, **ProbStat Forum**, 2017, 10 (1), 27-33. (*Peer Reviewed*)
10. (With P. Singh) *Optimal Designs of Multi-Response Mixture Experiments*, **Journal of the Indian Society of Agricultural Statistics**, 2011, 65(1), 91- 98. (*Peer Reviewed*)
11. (With M. L. Aggrawal and P. Singh) *A-optimal Designs for an Additive Cubic Model*, **Statistics and Probability Letters** (2011), 81(2), 259 - 266. (*Web of Science/Scopus*)
12. (With P. Singh) *Optimal Design for Second Degree K-Model for Mixture Experiments based on Weighted Simplex Centroid Design*, **Metron – International Journal of Statistics**, (2011), Vol. LXIX (3), 251 - 263. (*Web of Science/Scopus*)

#### Preprints:

1. (With L. R. Bhoi) *E-Bayesian estimation of half-normal distribution based on adaptive type-II progressive hybrid censored data*, **2023**.
2. (With L. R. Bhoi) *Statistical inference for two Burr-XII populations under a balanced joint progressive type-II censoring scheme*, **2023**.
3. (With L. R. Bhoi) *Bayesian and empirical Bayesian estimation of two parameters Lindley distribution under generalized progressive hybrid censoring scheme*, **2023**.
4. (With L. R. Bhoi) *E-Bayesian and empirical Bayesian of a class of lifetime distribution under adaptive progressive type-II censoring scheme*, **2023**.
5. (With L. R. Bhoi) *E-Bayesian and hierarchical Bayesian estimation of Burr-XII distribution under improved adaptive type-II progressive type-II censoring scheme*, **2023**.
6. *D-optimal Designs for Quartic Polynomial Model for Mixture Experiment*, **2023**.
7. *A-optimal Designs for Cubic Model without a 3-Way Effect for Mixture Experiment*, **2023**.
8. (With T.K. Biswal) *R-optimal Designs for Logistic Regression Model in Two Variables*, **2023**.
9. (With T.K. Biswal & V. K. Gupta) *R-optimal Designs for Gamma Regression Model with Two Parameters*, **2023**.
10. (With R. P. Sahoo) *Model Reparameterization and Model Robust Optimal Designs for Mixture Experiments*, **2023**.

#### Books/Chapters:

Recently worked as a content contributor with Wiley India Pvt. Ltd. and contributed additional content and problems with solutions for the development of three chapters in the Indian adaption of “Design and Analysis of Experiments” 10th Edition by Douglas C. Montgomery.

### **Project/Thesis Guidance:**

#### **Ph. D Thesis**

1. Rushi Prasad Sahoo/Regd. No. – PHD/DSTAT/01/2018  
Title of the Thesis: *Optimal Designs for Models with Mixture Experiments*  
Month/Year of Award: **Awarded (May, 2023)**  
University/Place: Central University of Odisha, Koraput, Odisha
2. Tofan Kumar Biswal/ Regd. No. - PHD/DSTAT/01/2019  
Title of the Thesis: *Contributions to Optimal Designs for Generalized Linear Model in Analysis of Experiments*  
Month/Year of Award: **Pursuing**  
University/Place: Central University of Odisha, Koraput, Odisha
3. Lipsha Rani Bhoi/ Regd. No. - PHD/DSTAT/01/2021  
Title of the Thesis: *Bayesian Inference for the Reliability of Lifetime Distributions under Progressive Censoring Scheme*  
Month/Year of Award: **Pursuing**  
University/Place: Central University of Odisha, Koraput, Odisha
4. Mausumi Dutta/Provisional Regd. No.- 22PH-ST-002  
Title of the Thesis: *Estimation of Reliability in a Multicomponent Stress-Strength Model for Statistical Distributions Under Progressive Censoring Scheme*  
Month/Year of Award: **Pursuing**  
University/Place: Ravenshaw University, Cuttack, Odisha

#### **M.Phil Thesis**

1. Khokan Kumar Pramanik/Regd. No. – 19/MPHIL/DSTAT/01  
Title of the Thesis: *The Role of Robust Parameter Design in Analysis of Experiments with Reference to Process Robustness: A Review*  
Month/Year of Award: **Awarded (Jan, 2021)**  
University/Place: Central University of Odisha, Koraput, Odisha
2. Vicky Kumar/ Regd. No. – 20/MPHIL/DSTAT/01  
Title of the Thesis: *A Study on Factors Affecting Malnutrition Among Indian Children Below Five Years of Age with Reference to NFHS-4 Data*  
Month/Year of Award: **Pursuing**  
University/Place: Central University of Odisha, Koraput, Odisha

#### **M.Sc. Dissertations**

Guided: 58 no.

#### **Professional Association:**

- Life Member, Indian Science Congress Association
- Life Member, Society of Statistics, Computers and Applications
- Life Member, Indian Society for Probability and Statistics

#### **Academic Presentations:**

- ***R-optimal Designs for Logistic Regression Model in Two variables***, “Eighth International Conference on Recent Trends in Statistical Theory and Applications – 2023 (WSTA – 2023)”, Department of Statistics, University of Kerala, Kerala (29 June – 02 July, 2023)
- ***K-optimal designs for an additive quadratic mixture model***, “International Conference of the Society of Statistics, Computer and Applications (SSCA)”, Department of Statistics, University of Jammu, Jammu (15 --17 February, 2023)
- ***Optimal Designs for Mixture Experiments using genetic Algorithm***, “IISA2022 Conference”, Department of Mathematics, Indian Institute of Science, Bengaluru (30 December, 2022)
- ***A-optimal Designs for Cubic Models without Three Way Effects and Quartic Models with Mixture Experiments***, “Eighth International Conference on Statistics for Twenty-first Century – 2022 (ICSTC – 2022)”, Department of Statistics and Population Research Centre, University of Kerala, Kerala (16 -- 19 December, 2022)
- ***R-optimal Designs for Linear Log Contrast Model with Mixture Experiments***, “International Conference on Knowledge Discoveries on Statistical Innovations & Recent Advances in Optimization (ICON – KSRAO)”, Department of Statistics and Population Research Centre, Andhra University, Visakhapatnam (29 -- 30 December, 2022)
- ***R-optimal allocations for Cubic Polynomial Models with Mixture Experiments***, International Conference on Recent Application of Statistical Techniques and Analysis (RASTA -2021)”, Department of Statistics, Institute of Science, Banaras Hindu University, Varanasi (15 --17 December, 2021)
- ***A-optimal designs for cubic polynomial models with experiments in three components***, “17<sup>th</sup> International Conference Applied Statistics 2021”, Statistical Society of Slovenia and Faculties of University of Ljubljana, Slovenia (20 --22 September, 2021)
- ***Model robust A-optimal designs for mixture experiments***,” International Conference (Virtual Mode) on Emerging Trends in Statistics and Data Science in conjunction with the 40th Annual Convention of ISPS”, India (07-10, September, 2021).
- ***A Study of exact designs in cubic and quartic regression models with reference to de la Garza phenomenon***, 23<sup>rd</sup> Annual Conference of SSCA (online) on “Visionary Innovations in Statistical Theory and Applications (VISTA -2021)”, ICAR- NAARM, Hyderabad (24--28 February, 2021)
- ***R-optimal designs for canonical polynomial models with mixture experiments***, Sixth International Conference on Statistics Twenty-First Century-2020, Virtual Conference, Department of Statistics, University of Kerala, Kerala (16--19 December, 2020).
- ***Bayesian optimal designs for life time data with censoring***, International Conference on Recent Advances in Statistics and Data Science for Sustainable Development, Department of Statistics, Utkal University, Bhubaneswar (21--23 December, 2019).
- ***R-optimal designs for an additive quadratic mixture model***, WB-OHPEE National Seminar on Statistical Methodology & Data Science, Department of Statistics, Utkal University, Bhubaneswar (15--16 March, 2019).
- ***Exact design for polynomial regression in view of the de la Garza phenomenon***, National Seminar on Applications of Statistics in Research, Department of Statistics, Ravenshaw University, Cuttack (22 February, 2019).
- ***R-optimal designs for quadratic polynomial model with mixture experiments***, Tenth International Triennial Calcutta Symposium on Probability & Statistics, Department of Statistics, University of Calcutta, Calcutta (28--30 December, 2018).
- ***Statistics: In search of truth***, National Seminar on “Statistics in Search: Trends & Applications”, Department of Statistics, Utkal University, Bhubaneswar (15 April, 2018).

- **Prediction for future failures for Weibull distribution under progressive type-II censoring**, 57<sup>th</sup> Conference of Lithuanian Mathematical Society, Vilnius Gediminas Technical University, Vilnius, Lithuania (20--21 June, 2016).
- **D-optimal designs for Becker's quadratic mixture model with spline**, Ninth International Triennial Calcutta Symposium on Probability & Statistics, Department of Statistics, University of Calcutta, Calcutta (28--31 December, 2015).
- **Moments of order statistics from Lindley distribution in the presence of multiple outliers**, 3rd International Conference on "Innovative Approach in Applied Physical, Mathematical/Statistical, Chemical Sciences and Emerging Energy Technology for Sustainable Development" Jawaharlal Nehru University, New Delhi (27--28 September, 2014).
- **Reliability for Lindley distribution in the presence of  $k$  outliers**, International Conference on Mathematical Sciences-2014, School of Mathematics, Madurai Kamraj University, Madurai (21-- 23 August, 2014).
- **Optimal Design for Second Degree K-Model for Mixture Experiments Based on Weighted Simplex Centroid Design**, Statistics 2013: Socio-Economic Challenges and Sustainable Solutions, C. R. Rao Advanced Institute of Mathematics Statistics & Computer Science, Hyderabad (28--31 December, 2013).
- **Optimal designs of multi-response mixture experiments**, International Congress of Mathematicians Satellite International Conference on Probability and Statistics, Department of Statistics and Mathematics, Sambalpur University, Sambalpur (1--3 September, 2010).
- **D-optimal design for three and four components mixture model with inverse terms**, Advances in Statistical Science (AISS 2010) International Conference in Celebration of 90<sup>th</sup> Birth Anniversary of Prof. C. R. Rao, Indian Statistical Institute, Kolkata (10 -- 11 January, 2010).
- **V-optimal design for second-degree K-model for mixture experiments**, The 96<sup>th</sup> Indian Science Congress Association, North Eastern Hill University, Shillong (3--7 January, 2009).
- **Symmetric D-optimal design for quadratic log contrast model for mixture experiments**, Pre- ICM International Convention on Mathematical Sciences, Department of Mathematics, University of Delhi, New Delhi (18--20 December, 2008).

#### **Academic Visits:**

##### **Conferences/Schools/Workshops/Training Programs Attended**

- International Conference on Recent Trends in Statistical Theory and Applications – 2023 (WSTA – 2023), Department of Statistics, University of Kerala, Kerala (29 June – 02 July, 2023)
- International Conference of the Society of Statistics, Computer and Applications (SSCA), Department of Statistics, University of Jammu, Jammu (15 --17 February, 2023)
- IISA2022 Conference, Department of Mathematics, Indian Institute of Science, Bengaluru (30 December, 2022)
- Eighth International Conference on Statistics for Twenty-first Century – 2022 (ICSTC – 2022), Department of Statistics and Population Research Centre, University of Kerala, Kerala (16 -- 19 December, 2022)
- International Conference on Knowledge Discoveries on Statistical Innovations & Recent Advances in Optimization (ICON – KSRAO), Department of Statistics and Population Research Centre, Andhra University, Visakhapatnam (29 -- 30 December, 2022)
- International Conference on Recent Application of Statistical Techniques and Analysis (RASTA -2021)", Department of Statistics, Institute of Science, Banaras Hindu University, Varanasi (15 --17 December, 2021)

- 17<sup>th</sup> International Conference Applied Statistics 2021, Statistical Society of Slovenia and Faculties of University of Ljubljana, Slovenia (20 --22 September, 2021)
- International Conference (Virtual Mode) on Emerging Trends in Statistics and Data Science in conjunction with the 40th Annual Convention of ISPS”, India (07-10, September, 2021).
- 23<sup>rd</sup> Annual Conference of SSCA (online) on “Visionary Innovations in Statistical Theory and Applications (VISTA -2021)” (24--28 February, 2021), ICAR- NAARM, Hyderabad
- Sixth International Conference on Statistics Twenty-First Century-2020, Virtual Conference (16-- 19 December, 2020), Department of Statistics, University of Kerala, Kerala.
- Two Weeks FDP on “Quantitative Methods for Data Analysis” (12--25 August, 2020), Teaching Learning Centre, Ramanujan College, University of Delhi.
- Five Days E-Workshop on “Stochastic Modeling, Optimization and Soft Computing” (10--14 August, 2020), Department of Mathematics & Statistics, Manipal University, Jaipur.
- A One Week online International Faculty Development Program on “Recent Advances in Mathematics & Statistics” (3--8 August, 2020), Department of Mathematics, Gitam University, Visakhapatnam.
- National Webinar on “Machine Learning and Mathematical Modeling” (7 August, 2020), Department of Mathematics & Statistics, Manipal University, Jaipur.
- National Workshop on Statistical Computational Techniques Using Python, R & SPSS (18--20 July, 2020), School of Studies in Statistics, Pt. Ravishankar Shukla University, Raipur.
- One Week FDP on “Open-Source Tools for Research” (8--14 June, 2020), Teaching Learning Centre, Ramanujan College, University of Delhi.
- Two Weeks FDP on “Managing Online Classes and Co-Creating MOOCs: 2.0” (18 May --03 June, 2020), Teaching Learning Centre, Ramanujan College, University of Delhi.
- Eight Day National Level Online Workshop on E-Content Development (Educational Audio-Video Production), (10 -- 17 May, 2020), Maharshi Dayanand College of Arts, Science and Commerce, Parel, Mumbai.
- International Conference on Recent Advances in Statistics and Data Science for Sustainable Development (21--23 December, 2019), Department of Statistics, Utkal University, Bhubaneswar.
- WB-OHPPEE National Seminar on Statistical Methodology & Data Science (15--16 March, 2019), Department of Statistics, Utkal University, Bhubaneswar.
- National Seminar on Applications of Statistics in Research (22 February, 2019), Department of Statistics, Ravenshaw University, Cuttack.
- Refresher Course in the subject “Economics & Statistics” (11 Feb -- 03 Mar, 2019), UGC-HRDC Centre, Utkal University, Bhubaneswar.
- Tenth International Triennial Calcutta Symposium on Probability & Statistics (28--30 December, 2018), Department of Statistics, University of Calcutta, Calcutta.
- National Seminar on “Statistics in Search: Trends & Applications” (15 April, 2018), Department of Statistics, Utkal University, Bhubaneswar.
- 57<sup>th</sup> Conference of Lithuanian Mathematical Society (20--21 June, 2016), Vilnius Gediminas Technical University, Vilnius, Lithuania.
- Ninth International Triennial Calcutta Symposium on Probability & Statistics (28--31 December, 2015), Department of Statistics, University of Calcutta, Kolkata.
- Summer School (23 June -- 13 July, 2015), UGC-HRDC Centre, Utkal University, Bhubaneswar.
- 3<sup>rd</sup> International Conference on “Innovative Approach in Applied Physical, Mathematical/Statistical, Chemical Sciences and Emerging Energy Technology for Sustainable Development” (27--28 September, 2014), Jawaharlal Nehru University, New Delhi.
- International Conference on Mathematical Sciences-2014 (21--23 August, 2014), School of

Mathematics, Madurai Kamraj University, Madurai.

- 29<sup>th</sup> Orientation Programme (25 Jan -- 21 Feb, 2014), UGC-Academic Staff College, Sambalpur University, Sambalpur.
- Statistics 2013: Socio-Economic Challenges and Sustainable Solutions (28--31 December, 2013), C. R. Rao Advanced Institute of Mathematics Statistics & Computer Science, Hyderabad.
- Workshop in Meta-Analysis in Risk-Benefit Evaluation (19 April, 2012), Bengaluru.
- International Congress of Mathematicians Satellite International Conference on Probability and Statistics (1--3 September, 2010), Department of Statistics and Mathematics, Sambalpur University, Sambalpur.
- National Workshop: "Statistics in Genomics" (12 -- 14 January, 2010), Indian Statistical Institute, Kolkata.
- Advances in Statistical Science (AISS 2010) International Conference in Celebration of 90<sup>th</sup> Birth Anniversary of Prof. C. R. Rao (10 -- 11 January, 2010), Indian Statistical Institute, Kolkata.
- National Meet on History of Mathematical Sciences (7--9 January, 2010), Department of Mathematics, University of Delhi, New Delhi.
- The 96<sup>th</sup> Indian Science Congress Association, North Eastern Hill University, Shillong (3--7 January, 2009).
- Lectures on Probability and Stochastic Process IV by Prof. Rahul Roy and Prof. Rajesh Sudransan (30 Nov -- 04 Dec, 2009), Indian Statistical Institute, Delhi.
- Pre-ICM International Convention on Mathematical Sciences (18--20 December, 2008), Department of Mathematics, University of Delhi, New Delhi.

#### **Institutes Visited**

- S.C.B Medical College & Hospital, Cuttack (April 2021).
- S.C.B Medical College & Hospital, Cuttack (June 2020).
- Indian Statistical Institute, Kolkata (June 2017).
- Vilnius University, Lithuania (June 2016).

#### **Contact:**

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