Durba Bhattacharya

durba@sxccal.edu
Date of Birth: April 1981

Curriculum Vitae
Last Updated: *July 2026*

Academic Positions

July 2013-	**Assistant Professor**, Department of Statistics, St. Xavier's College (Autonomous), Kolkata.
Jan 2026-	**Chair Editor,** Statistics and Applications (ISSN 2454-7395); https://ssca.org.in/journal.html
Oct 2023-Jan 2026	**Executive Editor**, Statistics and Applications (ISSN 2454-7395); https://ssca.org.in/journal.html
June2025-	**Scientific Member** in the Ethics Committee at R. Ahmed Dental College and Hospital, Kolkata
Jan2023-Apr 2023	**Visiting Professor**, Chennai Mathematical Institute, Chennai, Kolkata.
Oct 2008-Aug 2010	**Assistant Professor**, Department of Basic Engineering Sciences, Netaji Subhash Engineering College, Technocity, Garia.
July 2006-Oct 2008	**Lecturer (Full time),** Barrackpore Rastraguru Surendranath College, Barrackpore, West Bengal, India.
Aug2005-June2006	**Lecturer (Full time),** Shri Shikshayatan College, Kolkata, India.

Administrative Positions

July 2025 –	**Head of the Department**, Postgraduate Department of Data Science, St. Xavier's College (Autonomous), Kolkata.
July 2019 – June 2025	**Head of the Department**, Department of Statistics, St. Xavier's College (Autonomous), Kolkata.
July 2023 –	**Internship Nodal Officer,** Arts and Science Department, St. Xavier's College (Autonomous), Kolkata.

Education

Dec 2018	**PhD, Statistics**, Indian Statistical Institute, Kolkata. Advisor: Professor Sourabh Bhattacharya
Sept 2004	**MSc, Statistics**, University of Calcutta.
July2001	**BSc (Honors), Statistics**, University of Kalyani.

Research Interests

Bayesian Non-parametric Modelling, Statistical Genetics, Bayesian computation, Bio-statistics, Multi-objective optimization, Machine learning.

Publications

2026

1. **Bhattacharya D** and Bhattacharya S, Bayesian Nonparametrics for Gene-Gene and Gene-Environment Interactions in Case-Control Studies: A Synthesis and Extension; Statistics and Applications {ISSN 2454-7395 (online)}, Volume 24, No. 1, 2026 (New Series), pp 297–321.

2025

2. Jain R., Saha A[s]., **Bhattacharya D**., Das Gupta M., Chowdhury S[s], Daga G[s]., Roychowdhury S., Gender-Based Comparative Study of Type 2 Diabetes Risk Factors in Kolkata, India: Frequentist versus Bayesian Approach in Machine Learning; EPJ Web Conf., Volume 325, May 2025. International Conference on Advanced Physics for Sustainable Future: Innovations and Solutions.

3. **Bhattacharya D** and Bhattacharya S, An Overview of Bayesian Semiparametric Approaches for Genetic Association Studies; Special Proceedings (27) (Based upon the 27th (Annual) International Conference of the Society of Statistics, Computer and Applications (SSCA) - 2025 held at the Department of Statistics, North-Eastern Hill University, Shillong-793022, Meghalaya, India, during, February 21-23, 2025): ISBN #: 978-81-950383-8-1: September 2025.

4. Sen S.[s], **Bhattacharya D**., Das Gupta M., Jain R., Identifying Key Predictors of Type 2 Diabetes through Bayesian Variable Selection: A Cross-Sectional Study with Gender-Specific Insights; conference proceeding for ICDMAI 2025(9th International Conference on Data Management, Analytics & Innovation): November 2025.

2024

5. **Bhattacharya D.**, Bhattacharya S., Gene-Gene and Gene-Environment Interactions in Case-Control Studies Based on Hierarchies of Dirichlet Processes, Statistics and Applications {ISSN 2454-7395 (online)} Special Issue in Memory of Prof. C R Rao Volume 22, No. 3, December 2024.
6. Jain R., **Bhattacharya D.**, Das Gupta M. and Banerjee S., Lifestyle, BMI, Age, and Waist-To-Height Ratio as Indicators For Type 2 Diabetes Mellitus: A Gender-Based Comparative Study In Kolkata, West Bengal, India. Asian Journal of Statistical Sciences, Year: ISSN: 2582-9912; 2023, Vol.3 (2), PP.169-176; Publication: April 2024.

2023

7. Banisitti P.[s], **Bhattacharya D.**, Unlocking the Power of AI - Delving Deep into its Applications and Implications; The Eureka Moment; Prasanta Chandra Mahalanobis Mahavidyalaya, First Edition: 2023, 14-22; Published by Levant Books, Distributed by Sarat Book Distributors, ISBN: 978-93-91741-52-5.
8. **Bhattacharya D.**, Bhattacharya S., A Nonparametric Structure Based on Hierarchical Dirichlet Processes for Studying Gene-Gene and Gene-Environment Interactions. Special Proceedings Based upon the 25th Silver Jubilee (Annual) International Conference held at the Department of Statistics, University of Jammu, Jammu & Kashmir, India on February 15 - 17, 2023; ISBN#: 978-81-950383-2- 9; pp 31-41.

2020

9. **Bhattacharya D.**, Bhattacharya S., Effects of Gene-Environment and Gene-Gene Interactions in Case-Control Studies: A Novel Bayesian Semiparametric Approach, February 2020, Brazilian Journal of Probability and Statistics, Vol-34, Number 1 (2020), 71-89, 10.1214/18-BJPS413.
10. Beed R., Roy A., Sarkar S., **Bhattacharya D.**, A Hybrid Multi-Objective Tour Route Optimization Algorithm Based on Particle Swarm Optimization and Artificial Bee Colony Optimization. Computational Intelligence, 25th January 2020, Computational Intelligence, Vol 36, Issue 3, 884-909, DOI: 10.1111/coin.12276

2019

11. Beed R., Roy A., Sarkar S., **Bhattacharya D.**, Hierarchical Multi-Objective Route Optimization for Solving Carpooling Problem, April 2020, Proceedings of the Global AI Congress 2019, Pages-377-390, DOI: 10.1007/978-981- 15-2188-1_30

2018

12. **Bhattacharya D.**, Bhattacharya S., A Bayesian Semiparametric Approach to Learning About Gene-Gene Interactions in Case-Control Studies, Journal of Applied Statistics, Volume 45, 2018 - Issue 16, 2906-2928, doi.org/10.1080/02664763.2018.1444741

[s]student author

Ongoing Projects

Project Title: BigBayesML Laboratory under ISI, Kolkata.

Project Objective: To analyze large datasets in the Bayesian and model-based machine learning paradigms and compare the performances. Development of suitable efficient computational algorithms for a newly proposed robust Bayes procedure.

Collaborators: Dr. Sourabh Bhattacharya, ISRU, Indian Statistical Institute, Kolkata, Dr. Abhik Ghosh, ISRU, ISI, Kolkata and Dr. Trisha Maitra, Prasanta Chandra Mahalanobis Mahavidyalaya.

Consultancy

1. **Senco Gold and Diamond Jewellery**- Providing analytical support for their marketing and customer segmentation. (2020-2023)

2. **Kolkata Customs**- Passenger Satisfaction Survey Report under Xavier's Consulting Club. (2023)

Talks/ Resource Person

1. Served as a **Resource Person** at the **International Workshop on Emerging Trends in Statistical & Machine Learning (ETSML 2026)**, organized by the Department of Quantitative Economics and Data Science (QEDS), **Birla Institute of Technology (BIT), Mesra**, during 6–10 July 2026. Delivered an invited lecture on 7 July 2026 titled "An Introduction to Bayesian Nonparametric Modeling: From Dirichlet Process Priors to Infinite Mixture Models.
2. Delivered a **Special Invited talk** on 4th July 2026 at the **Eleventh Hybrid International Conference on "Recent Trends In Statistical Theory And Applications" [WSTA-2026]**, 02 July 2026 - 05 July 2026, organized by the International Statistics Fraternity (ISF), Indian Society for Probability and Statistics (ISPS), the Kerala Statistical Association (KSA), the Department of Statistics, **University of Kerala and School of Physical and Mathematical Sciences, University of Kerala, Trivandrum, India.**
3. Served as a **Resource person** in the **Workshop on Biostatistics**, organized by the **Department of Public Health Dentistry, Dr. R Ahmed Dental College & Hospita**l on 22nd June 2026. Delivered a lecture on Biostatistics in Clinical Patient Care and Research.
4. **Invited Panelist**, **IEM-ICDC 2026** (**4th International Conference on Computational Intelligence, Data Science, and Cloud Computing**): Participated in panel discussion on *"From Innovation to Responsibility: Can Generative AI Scale Ethically?",* STPI, Kolkata | March 17, 2026.
5. Delivered an **Invited talk** on "Bayesian Deep Neural Networks Driven by Recursive Gaussian Processes" at the **Eleventh International Conference on Statistics for Twenty-first Century-2025** (ICSTC - 2025) organized by the International Statistics Fraternity (ISF) and Department of Statistics, **University of Kerala, Trivandrum** on 18th December 2025.
6. Delivered 3 **invited lectures** on "Basic Discrete and Continuous Distributions", "Bayesian Perspectives of Data Analysis" and "Bayesian Analysis of Health-related Data", in **Two-Day Online Workshop on Introduction to Statistics and Data Analysis** Jointly organized by the **Ex-Faculty, Indian Statistical Institute, Kolkata and the Department of Mathematics, Sikkim University** on 24/10/2025 and 25/10/2025.
7. Delivered an **Invited talk** on "Applications of Bayesian Non-Parametric Methodologies in Genetic Association Studies" on the occasion of the National Statistics Day 29.06.2025, celebration, Organized by the **MIT World Peace University, Pune** on 02/07/2025.
8. Delivered an **Invited talk** on "Dirichlet Process Mixture Models in Genetic Association Studies" at the **Tenth International Conference on "Recent Trends in Statistical Theory and Applications-2025" (WSTA – 2025)**, organized by the Department of Statistics, School of Physical & Mathematical Sciences, **University of Kerala** jointly with International Statistics Fraternity (ISF), Kerala Statistical Association (KSA), and Statistics Fraternity Kerala (SFK) from 29 June - 01 July 2025.

9. Delivered an **Invited talk** on "Applications of Bayesian non-parametric methodologies in genetic association studies" in the **27th Annual Conference of The Society of Statistics, Computer and Applications (SSCA) International Conference on Advances of Interdisciplinary Statistics and Applications in AI & ML (AISAAM-2025)** February 21-23, 2025 Organized by Department of Statistics, **North-Eastern Hill University, Shillong**-793022, Meghalaya.
10. **Resource person** at the Workshop on "Big Data Through Bayesian And Non-Bayesian Lenses" [6th Feb-7th Feb 2025] Organized by **Interdisciplinary Statistical Research Unit (ISRU), ISI Kolkata.**
11. Delivered an **Invited talk** on "Bayesian Nonparametrics – Development and Applications with a Focus on Dirichlet Process-Based Mixture Models" at the **Ninth International Conference on "Recent Trends in Statistical Theory and Applications-2024" (WSTA – 2024)**, organized by the Department of Statistics, School of Physical & Mathematical Sciences, **University of Kerala** jointly with International Statistics Fraternity (ISF), Kerala Statistical Association (KSA), and Statistics Fraternity Kerala (SFK) from 29 June - 02 July 2024.
12. **Resource person** at the Workshop on "Statistical Learning & Bayesian Analysis with R 2023" [20th November-1st December 2023] Organized by **Interdisciplinary Statistical Research Unit (ISRU), ISI Kolkata.**
13. Delivered the **J K Ghosh Memorial Endowment lecture** at the "**Silver Jubilee (annual) International Conference on Significance of Statistical Sciences in the Emerging Scenario"** organized by **the Society of Statistics, Computer and Applications (SSCA)** and The Department of Statistics, **University of Jammu** on 15th February 2023.
14. **Resource person** at the **workshop** on "An Advanced Training Program on Bayesian Modelling and Simulation", organized by **DST-CIMS, Banaras Hindu University** on 6th January, 2023.
15. **Resource person** at the **workshop** on "Bayesian Inference and Computation", organized by the **Interdisciplinary Statistical Research Unit, ISI, Kolkata**, during 19th -23rd December, 2023.
16. Delivered an **Invited talk** on "A Novel Bayesian Hierarchical Testing Procedure in Studying Genetic Interactions in Case-Control Studies" at **Sixth International Webinar on "Recent Trends In Statistical Theory And Applications-2022 (WSTA-2022)**" in conjunction with Fifth Annual Convention of Statistics Fraternity Kerala (SFK) Indian Society for Probability and Statistics (ISPS), Kerala Statistical Association (KSA) & Department of Statistics, School of Physical and Mathematical Sciences **University of Kerala**, Trivandrum, India during 29th June – 1st July, 2022.
17. Presented an **Invited Talk** on "Dirichlet process-based mixture modeling for genetic association studies" during 24th Annual Conference of SSCA (online) on "**Recent Advances in Statistical Theory and Applications (RASTA-2022)**", 23 – 27 February 2022 at **ICAR - National Academy of Agricultural Research Management (ICAR -NAARM), Hyderabad.**
18. Delivered an **Invited talk** on "Bayesian Semiparametric Models in Studying Genetic Diseases" at the **Seventh International Conference on Statistics for Twenty-first Century-2021 (ICSTC - 2021)** organized by the International Statistics Fraternity (ISF) and Department of Statistics, **University of Kerala**, Trivandrum during 15 - 19 December 2021.
19. **Presented Paper** in the "Tenth International Triennial Calcutta Symposium on Probability & Statistics (Celebrating the Birth Centenary of Prof. H.K Nandi)", held from 27-30 December 2018 at **University of Calcutta.**
20. **Presented Paper** in the "Ninth International Triennial Calcutta Symposium on Probability & Statistics" held on 28-31 December 2015 at **University of Calcutta.**
21. Delivered a **Talk** in the "International Seminar on Game Theory and its Applications to Social and Economic Networks" held at **Dibrugarh University**, Dibrugarh, Assam from 10-12 December 2014.

Session Chair

1. Chaired a session in the Eleventh International Conference on "Statistics for Twenty-first Century 2025" (ICSTC-2025), on 18th December 2025, organized by International Statistics Fraternity (ISF), Department of Statistics and School of Physical and Mathematical Sciences, University of Kerala, Trivandrum.
2. Chaired a session in the Tenth International Conference on "Recent Trends in Statistical Theory and Applications-2025" (WSTA – 2025), June 29 - July 01, 2025, organized by the Department of Statistics, School of Physical & Mathematical Sciences, University of Kerala, jointly with International Statistics Fraternity (ISF), Kerala Statistical Association (KSA) and Statistics Fraternity Kerala (SFK).
3. Chaired a session in the 27th Annual Conference of The Society of Statistics, Computer and Applications (SSCA) International Conference on Advances of Interdisciplinary Statistics and Applications in AI & ML (AISAAM-2025) February 21-23, 2025 Organized by Department of Statistics, North-Eastern Hill University, Shillong-793022, Meghalaya.
4. Chaired a session in the Ninth International Conference on "Recent Trends in Statistical Theory and Applications-2024" (WSTA – 2024), June 29 - July 02, 2024, organized by the Department of Statistics, School of Physical & Mathematical Sciences, University of Kerala, jointly with International Statistics Fraternity (ISF), Kerala Statistical Association (KSA) and Statistics Fraternity Kerala (SFK).
5. Chaired a session in the Ninth International Conference on "Statistics for Twenty-first Century2023" (ICSTC-2023), 15 - 18 December 2023, organized by International Statistics Fraternity (ISF), Department of Statistics and School of Physical and Mathematical Sciences, University of Kerala, Trivandrum.
6. Chaired a session in the Eighth International Conference on "Recent Trends in Statistical Theory and Applications-2023 (WSTA – 2023), June 29 - July 02, 2023, organized by the Department of Statistics, School of Physical & Mathematical Sciences, University of Kerala jointly with Indian Society for Probability and Statistics (ISPS), Kerala Statistical Association (KSA) and Statistics Fraternity Kerala (SFK)
7. Chaired a Special Invited Session at the Sixth International Webinar on RECENT TRENDS IN STATISTICAL THEORY AND APPLICATIONS-2022 (WSTA-2022) in conjunction with Fifth Annual Convention of Statistics Fraternity Kerala (SFK) Indian Society for Probability and Statistics (ISPS), Kerala Statistical Association (KSA) & Department of Statistics, School of Physical and Mathematical Sciences University of Kerala, Trivandrum, India during on 1st July, 2022.
8. Chaired a Session at the Seventh International Conference on Statistics for Twenty-first Century2021 (ICSTC - 2021) organized by the International Statistics Fraternity (ISF) and Department of Statistics, University of Kerala, Trivandrum from 15 - 19 December 2021.

Teaching

St. Xavier's College (Autonomous), Kolkata.

- Linear Algebra
- Descriptive Statistics
- Sample Survey
- Multivariate Techniques
- Economic Statistics
- Bayesian Data Analysis

Chennai Mathematical Institute

- Bayesian Data Analysis

Netaji Subhash Engineering College, Technocity

- Numerical Analysis
- Operations Research.

Barrackpore Rashtraguru Surendranath College

- Descriptive statistics
- Probability

Shri Shikshayatan College

- Descriptive statistics
- Probability

Professional Service

St. Xavier's College (Autonomous), Kolkata

2019- Member, Programme and Publication Committee.

2019 - Member, Student's Advisory Committee.

Statistical Associations

2023 - Member of the Society of Statistics, Computer and Applications (SSCA)

Workshops and Conferences

Feb 2026 Convener, **Convergence 2026,** Annual Departmental event, Department of Data Science

Nov 2025 Convener, **DatAspire 2025** – Symposium on Emerging horizons of Data Science

Jan 2025 Program Chair, **ICDMAI 2025**

July 2024 Convener, Workshop on "**Data-Driven Decision-Making in Research**" organized jointly by the Department of Statistics and Department of Sociology, St. Xavier's College (Autonomous), Kolkata.

Aug 2023 Convener, **Data Summit** 2024, St. Xavier's College (Autonomous), Kolkata.

Dec 2019 Convener, National Seminar On **"Applications of Statistics in Natural Sciences"** during December 16-17, 2019 at St. Xavier's College (Autonomous), Kolkata and in collaboration with IUCAA Centre for astronomy Research and Development (ICARD), Kolkata.

July 2019 Convener, One day National Seminar on "**Data Science –The Key to the Future**" at St. Xavier's College (Autonomous), Kolkata on 22nd July 2019