CURRICULUM VITAE & PUBLICATIONS

Debashis Chatterjee
Ph.D., M.Stat, B.Stat(Honours)

Indian Statistical Institute

Current Office Contact Address:

Assistant Professor in Statistics
Department of Statistics,
Siksha-Bhavana (Institute of Science)
VISVA-BHARATI UNIVERSITY
P.O. : Santiniketan
West Bengal, India Pin 731235.

E-mail: debashis.chatterjee@visva-bharati.ac.in
Alternative Personal E-mail: debashis1chatterjee@gmail.com   *2024-25*

ACADEMIC QUALIFICATIONS AND EXPERIENCES

Assistant Professor: Assistant Professor at the Department of Statistics, Siksha-Bhavana (Institute of Science), VISVA-BHARATI, Santiniketan, West Bengal, India (**02 July 2021** till present).
Teaching Experience: 4 years, Research Experience after PhD: 3 years 2 Month (as assistant Professor, Visva Bharati University, India (A Central University of India and Institute of National Importance))

Ph.D.: Ph.D. in Statistics from Indian Statistical Institute (Dec 2015-Dec 2020). (Thesis submitted in December 2020, degree received from Indian Statistical Institute on 24 May 2022).

M.Stat: M.Stat with First Div. (specialization in Mathematical Statistics and Probability), Indian Statistical Institute (2013-2015).

B.Stat (Honours): B.Stat (Honours) with First Div., Indian Statistical Institute (2010-2013).

RESEARCH INTERESTS

(Google Scholar: https://scholar.google.com/citations?user=3Jp0_-gAAAAJ&hl=en)

- **Interdisciplinary Statistical Theory & Applications in STEM: Astrostat, Geostat & Biostat**

- **Bayesian Theory and Application** on Statistics and Data Science in STEM

- **Artificial Intelligence and Machine Learning with its Application to STEM (Basic Sciences), in particular, Astronomy, Geology, Biology and Medical Sc.**

- **Bayesian Analysis, Directional Statistics, Geo-Statistics, Application of Statistics in Astronomy & Earth Science, Quantum Theory & Computing**

- Geo-statistics, Astro-Geo-Statistics, Bayesian/ Directional Astro/Geo-Statistics (theory, methods, applications, computations). **Applied Stochastic Processes in STEM**

- Applications of Novel Statistical methodologies to interdisciplinary challenging scientific issues, especially in Earth Science, paleontology, biology, medical science & astronomy.

- **Application of Stochastic Process, Optimization Techniques & Operations Research in Astronomy, Earth Science & Biology**

- **Machine intelligence, AI, Computer science, Probabilistic Robotics.**

- Interdisciplinary Bio-statistics and Statistical Application in Medical Sc.

- Statistical Machine Learning based Applications in Astrostat, Earth Science, Bayesian Geo-Statistics, Biostat

- Bayesian Geometric Morphometrics

- Statistical Geophysical Spatio-temporal process modeling. Directional Statistical Applications in Geology, Paleontology and medicine

- Statistical Applications in Theoretical & Applied Physics, Earth Science & Mathematics.

- **Machine Learning, Artificial Intelligence, and Statistical Computation**, Big Data in Astronomy and Genetics

PhD Students (2 Ongoing)

Subhrajit Saha: (Ongoing) research Scholar, Department of Statistics, Visva Bharati

Nabanita banerjee: (Ongoing) research Scholar, Department of Zoology, Burdwan University

Table 1: Best **17** Publications based on Top **Q1** Journals (Published/Accepted) with Impact Factors, H-Index, and Links to Published Papers/Accepted paper (ALL as 1st Author/Corresponding Author/Principle Supervisor/supervisor. (Interchangeably first authors or in correspondence, per requirements to meet journal APC policy/ waiver/ funding policy)
Mainly On Novel Applications of Statistics/Machine Learning in STEM (especially Astronomy, Biophysics, Geology)

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Google Scholar Citation: https://scholar.google.com/citations?user=3Jp0_-gAAAAJ&hl=en
A detailed list of publications has been provided in a later section.

Journal Name	Impact Factor	H-Index	CiteScore	SJR	Link to Paper(s)
The American Statistician	3.614	104	4.3	1.253	1 Published in https://doi.org/10.1080/00031305.2017.1397548
Monthly Notices of the Royal Astronomical Society	5.23	295	6.9	2.803	1 Published https://doi.org/10.1093/mnras/stae1066
Publications of the Astronomical Society of the Pacific (IOP)	3.3	172	10.1	1.425	Total **2** (2 Published https://iopscience.iop.org/article/10.1088/1538-3873/ad851b, and https://iopscience.iop.org/article/10.1088/1538-3873/adb2c1; accepted as: PASP-101893.R1, PASP-101893.R2)
PLOS ONE	3.752	299	5.7	1.008	**Total 7** Published: https://doi.org/10.1371/journal.pone.0304279 , https://doi.org/10.1371/journal.pone.0320210, https://doi.org/10.1371/journal.pone.0324741, and https://doi.org/10.1371/journal.pone.0326273
Robotics and Autonomous Systems	3.47	115	6.2	1.601	1 Published in https://doi.org/10.1016/j.robot.2016.01.004
Astronomische Nachrichten, Wiley Link	1.1	59	1.8	0.418	(1 Published: Link. Accepted. Manuscript ID ASNA.20240057.
Planetary and Space Science, Elsivier	1.8	104	5.4	0.611	**Published 1** https://doi.org/10.1016/j.pss.2025.106167
Environmental Monitoring and Assessment (Springer Nature)	2.9	142	4.7	0.643	1 published; https://doi.org/10.1007/s10661-025-13969-9
Journal of Medical Entomology (Oxford Academic)	2.1	114	4.6	0.797	**Published 1** https://doi.org/10.1093/jme/tjaf082
Journal for Nature Conservation (Elsevier)	2.5	62	4.7	0.685	1 published; https://doi.org/10.1016/j.jnc.2025.127011

AWARDS & HONORs

Featured in News: Featured in a news article by The newspaper **Telegraph India**, for one of my publications

Scientists shed new light on magnetic murmurs guiding birds along migratory pathways

Featured in News:	Featured in a news article by The newspaper **Bartman, India**, for one of my publications https://bartamanpatrika.com/news/-numerology-can-predict-earthquakes-volcanic-eruptions-says-visva-bharati-professor
Best Teacher Honor	: 2024. Honored Best Teacher (based on Student's Feedback) at Siksha Bhavana Library, Visva Bharati (No official Documents received yet)
Best Paper Presentation	: 2019. Best Paper Award. National Seminar on Application of Statistics on Natural Science. (IUCAA Center for Astronomy Research & Development), St Xaviers College (Autonomous), Kolkata
Olympiad	: 2009. Indian Standard Examination in Astronomy. (Astronomy Olympiad), National Board for Higher Mathematics (NBHM) of the Department of Atomic Energy (DAE), Government of India, awarded a prestigious Certificate of Merit for being in the top 1% statewide. Also cleared Regional Math Olympiad.

TEACHING EXPERIENCE

Full-courses:	Teaching full courses in Visva-Bharati (Department of Statistics) regularly from July 2021: Regression Techniques (M. Sc first year), Statistical Computing (B.Sc third year), Statistical Inference 2 [Non-parametric part] (M. Sc first year), Real Analysis (B Sc second year), Sampling Distribution (B Sc second year), Linear Algebra (B Sc first year), Application of Statistics **Teaching Experience: 4 years 3 months**
Dissertation Project	(2023. Supervised the B.Sc Final Year whole batch).
M. Sc. Dissertation	(M.Sc final year & B Sc Final Year). Total students supervised to date: 4
LAB Instructor:	2018 Fall: EM Algorithm Step-by-step (with R) LAB Instructor, under Prof. Arnab Chakraborty, Indian Statistical
Invited Tutor Instructor	: 2022 July: Invited as Tutor Instructor for Tutorial Classes on Unsupervised Learning at Instructional School for Teachers at Indian Statistical Institute

THESIS

Chatterjee, D (2020). A BRIEF TREATISE ON BAYESIAN INVERSE REGRESSION.
Ph.D. Supervisor: Prof. Saurabh Bhattacharya, ISRU, Indian Statistical Institute.
An abridged version of the Ph.D. thesis was selected by the Indian Statistical Institute for a Ph.D. degree and is publicly available in the Thesis Online Repository of the Indian Statistical Institute. (ISI, Ph.D Thesis ; TH471)
The original long version (As recommended by the Thesis Supervisor) is Available at `https://www.researchgate.net/publication/360456798_A_BRIEF_TREATISE_ON_BAYESIAN_INVERSE_REGRESSION`.

PUBLISHED BOOK CHAPTERS

(Book Chapter): Ghosh P, Sanyal S, **CHATTERJEE D.** Revisit to a Prominent Example of The Curse of Dimensionality: Re-investigating Anomaly Behaviour of Monte Carlo Estimate of π in Higher Dimension. Nature Scientific Report; 2023. (Abstracts to be published on 21 December 2023, in the Proceedings of IMBIC Vol. 10 (ISBN 978-81-925832-9-7). Accepted for the Scopus Indexed Springer Book Series, only the abstracts will appear in the IMBIC Proceedings.) Accepted.

(Book Chapter): **Advances in Robotics and Automatic Control: Reviews, Vol. 1. (2018). International Frequency Sensor Association Publishing.** Yurish S (editor). **ISBN: 978-84-09-02449-0.** BN-20180530-XX. BIC: TJFM1 [Chapter 6: (Simulation Study of a Constant Time Hybrid Approach for Large Scale Terrain Mapping Using Satellite Stereo Imagery)] Author(s) . Sarkar, R. Reiger, **D. Chatterjee**, S. Patranabis, H. Singh and P. Mukherjee
Available at: http://www.sensorsportal.com/HTML/BOOKSTORE/Advances_in_Robotics_and_Automatic_ControlVol_1.pdf

PUBLISHED SOFTWARE (R PACKAGES)

Published Novel R package: BPviGM1 (Part 1)

[Current 2023 updated version is Publicly Available on GitHub repository & indexed in rdrr (A comprehensive index of R packages and documentation from CRAN, Bioconductor, GitHub and R-Forge)]

1. Novel R package BPviGM1 (Part 1) Publicly Available on GitHub repository and on rdrr (A comprehensive index of R packages and documentation from CRAN, Bioconductor, GitHub and R-Forge)

   (a) https://rdrr.io/github/debashischatterjee111/BPviGM1/,
   (b) also available at https://github.com/debashischatterjee111/BPviGM1 (NOVEL BAYESIAN PROCRUSTES VARIANCE-BASED INFERENCES IN GEOMETRIC MORPHOMETRICS & NOVEL R PACKAGE: BPviGM1, 2021-22)

Installation: Public Installation of the latest version of this package: Enter the following in R:

```
install.packages("remotes")
remotes::install_github("debashischatterjee111/BPviGM1")
```

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(Final Version is on Progress & Ongoing Communication)

PUBLICATIONS

[**Note about student coauthors:** Ghosh.P. (Prithwish Ghosh) is MSc Student currently doing PhD at NCSU, USA. Saha S (Subhrajit Saha) is an ongoing PhD student at Visva Bharati. Myself and Students are interchangeably first authors or in correspondence, per requirements to meet funding policy/ journal APC funding/ waiver.]

UNDER REVISION

6. Subhrajit Saha & **Debashis Chatterjee.** A Novel Multivariate Generalized Circular Mixed Model for Count Data: Classical & Bayesian Inferences. (Under Revision in **Austrian Journal of Statistics**). (Corresponding author)

5. **Chatterjee. D.**, Saha S, Ghosh.P. (PONE-D-24-55262) Circular Insights for Rhythmic Health: A Bayesian Approach with Stochastic Diffusion for Characterizing Human Physiological Rhythms with Applications to Arrhythmia Detection. (Under revision in **PLOS ONE**) [First Author and Project Supervisor.]

4. **Chatterjee, Debashis,** and Sourabh Bhattacharya. "How Ominous is the Future Global Warming Premonition?." arXiv:2008.11175 (2020). Available at https://arxiv.org/pdf/2008.11175.pdf (Under revision in *Sankhya*, Series B in 2025)

3. **Chatterjee. D.**, Ghosh.P. "Cosmic Compasses and Turtle Treks: A Directional Statistical Remarks on Dependencies of Turtle Migration with Sun, Moon, & Earth's Magnetic Field" (Under Review **PNAS Nexus**, Editorial https://royalsocietypublishing.org/journal/rsos) [First Author and Project Supervisor]

2. Priyam Das; **Debashis Chatterjee**; Prajamitra Bhuyan; Bryan S. Michalowicz; Debdeep Pati; Dipankar Bandyopadhyay. Subphenotyping periodontal visits based on treatment sequences using mixture Markov chain clustering". (Under Review in **Plos One**) [2nd Author]

1. Ghosh P, **Chatterjee D*,** Banerjee A, Das S, Mukherjee D, Das P. "On Spatio-temporal Dependence of Bird's Migration Path Direction on the change of the Earth's Magnetic field, Sun and the Moon Positions (European Region Study)" To be Submitted to **Proceedings of the National Academy of Sciences (PNAS)** [* Corresponding Author, afresh revised submission ongoing]

PUBLISHED PAPERS

23. **Chatterjee, Debashis,** and Prithwish Ghosh. "Whisperers of whales wander: A directional statistical investigation of whales' migration influenced by geomagnetic, ocean current, and celestial cues". **Journal for Nature Conservation, Elsevier**, 127011. https://doi.org/10.1016/j.jnc.2025.127011.

22. **Chatterjee, Debashis,** and Prithwish Ghosh. "On the Directional Nature of the Fall of Celestial Objects on the Surface of Venus." **Planetary and Space Science, Elsivier**, 2025, p. 106167, https://doi.org/10.1016/j.pss.2025.106167.

21. **Debashis chatterjee**, Prithwish Ghosh. Bayesian Hierarchical Modeling of Mucosal Immune Responses and Growth Efficiency in Young Animals: Demonstrating the Superiority of Data-Dependent Empirical Priors. 20(6): e0326273. **PLOS One** https://doi.org/10.1371/journal.pone.0326273.

20. Banerjee, N., Mazumdar, S. M., **Chatterjee, D.**, & Pal, A. (2025). A novel Bayesian approach based on wing geometric morphometry to discriminate Culicoides species (Diptera: Ceratopogonidae). **Journal of Medical Entomology (Oxford Academic)**,https://doi.org/10.1093/jme/tjaf082 (one of the corresponding authors and supervisors)

19. **Debashis chatterjee**, Subhrajit Saha, Prithwish Ghosh. Circular Insights for Rhythmic Health: A Bayesian Approach with Stochastic Diffusion for Characterizing Human Physiological Rhythms with Applications to Arrhythmia Detection. **PLoS ONE** 20(6): e0324741. https://doi.org/10.1371/journal.pone.0324741

18. Hore, M., Bhattacharyya, S., **Chatterjee, D.**, Saha, S., Biswas, J. K., & Roy, S. (2025). Assessing water quality of River Mahananda, Malda, India using Cirrhinus reba as a bioindicator: Oxidative stress biomarkers and histopathological fingerprints. **Environmental Monitoring and Assessment (Springer Nature)**, 197(5), 530. https://doi.org/10.1007/s10661-025-13969-9

17. **Debashis chatterjee**, Prithwish Ghosh, Amlan Banerjee, Shiladri Shekhar Das, 2025, Novel Empirical Models & Comparative Probabilistic Analysis of Interconnectedness of Volcano Eruption & Nearby Earthquakes of the Earth. **PLoS ONE**, vol. 20, no. 4, 2025, p. e0320210, https://doi.org/10.1371/journal.pone.0320210.

16. Ghosh.P., Ghosh.S., **Chatterjee. D.** ”A Flexible Spherical Mixture Model for Gamma-Ray Burst Patterns Obtained from BATSE and FERMI Mission.” Publications of the Astronomical Society of the Pacific 137.2 (2025): 024503. 10.1088/1538-3873/adb2c1(**Publications of the Astronomical Society of the Pacific**) [Main project Supervisor]

15. **Chatterjee. D.** & Ghosh, P. (2025). Redshift-Agnostic Machine Learning Classification: Unveiling Peak Performance in Galaxy, Star, and Quasar Classification (Using SDSS DR17). **Astronomische Nachrichten (Wiley)**, e20240057. https://doi.org/10.1002/asna.20240057 [*First Author and project Supervisor]

14. **Chatterjee. D.**, Ghosh.P. Mercury's Meteorite Mysteries: A Directional Statistical Guide to Mercury's North Pole, Hidden Hazards and Roadmap to Safe Landing Havens Based on Solar Elevation, Ice Stability, Temperature. **Publications of the Astronomical Society of the Pacific, IOP**, 136(11), 114509. DOI 10.1088/1538-3873/ad851b https://iopscience.iop.org/journal/1538-3873 [*First Author and project Supervisor]

13. **Chatterjee, D.**, Ghosh P, Banerjee A, Das SS (2024) Optimizing machine learning for water safety: A comparative analysis with dimensionality reduction and classifier performance in potability prediction. **PLOS Water** 3(8): e0000259. https://doi.org/10.1371/journal.pwat.0000259 [*First Author]

12. Ghosh, P., **Chatterjee, D.**, Banerjee, A., & Das, S. S. (2024). Do Magnetic murmurs guide birds? A directional statistical investigation for influence of Earth's Magnetic field on bird navigation. **PLOS ONE**, 19(6), e0304279. https://doi.org/10.1371/journal.pone.0304279 [*Principal Supervisor & Generator of Main Idea]

11. Prithwish Ghosh, **Debashis Chatterjee***, Amlan Banerjee: On the directional nature of celestial object's fall on the earth (Part 1: Distribution of fireball shower, meteor fall & crater on earth's surface), **Monthly Notices of the Royal Astronomical Society**, 2024; stae1066, https://doi.org/10.1093/mnras/stae1066 [* Corresponding Author & Project Supervisor]

10. **Chatterjee D***, & Saha, S. (2024). Novel methodology & optimization of heat pump efficiency through stochastic finite element analysis and circular statistics. **Thermal Science and Engineering**. 7(4): 8795. https://doi.org/10.24294/tse8795 [* First & Corresponding Author, INVITED PAPER]

9. Saha, S.& **Chatterjee D*** (2024). A Novel Circular Dynamics in Financial Networks with Cross-Correlated Volatility and Asset Movements **Financial Statistical Journal. 2024; 7(2): 9177.** https://doi.org/10.24294/fsj9177 [* Corresponding Author]

8. **Chatterjee, Debashis,** Trisha Maitra, and Sourabh Bhattacharya. ”A short note on almost sure convergence of Bayes factors in the general set-up.” **The American Statistician** 74.1 (2020): 17-20. https://doi.org/10.1080/00031305.2017.1397548 (Journal Print ISSN: 0003-1305, Online ISSN: 1537-2731) [First Author]

7. Sarkar, A., Reiger, R., **Chatterjee, D.**, Patranabis, S., Singh, H., & Mukherjee, P. (2016). Simulation study of a constant time hybrid approach for large scale terrain mapping using satellite stereo imagery. **Robotics and Autonomous Systems, Elsevier**, 79, 132-146.

https://doi.org/10.1016/j.robot.2016.01.004
(Journal Online ISSN: 1872-793X, Print ISSN: 0921-8890)

6. (Book Chapter): **Advances in Robotics and Automatic Control: Reviews, Vol. 1. (2018). International Frequency Sensor Association Publishing. ISBN: 978-84-09-02449-0.** Yurish S (editor). [Chapter 6: (Simulation Study of a Constant Time Hybrid Approach for Large Scale Terrain Mapping Using Satellite Stereo Imagery)] Author(s) . Sarkar, R. Reiger, **D. Chatterjee**, S. Patranabis, H. Singh and P. Mukherjee. Available at: http://www.sensorsportal.com/HTML/BOOKSTORE/Advances_in_Robotics_and_Automatic_ControlVol_1.pdf

5. **Chatterjee, Debashis,** and Sourabh Bhattacharya. "A Statistical Perspective on Inverse and Inverse Regression Problems." **RASHI** 2 (1): 67-82 (2017).
(Journal ISSN (Online):2581 9755).
Available at http://www.sasaa.org/complete_journal/vol2__9.pdf, Latest version available at https://arxiv.org/abs/1707.06852 [First Author]

4. **Chatterjee, Debashis.** "A Novel Bayes Factor for Inverse Model Selection Problem based on Inverse Reference Distribution. IJMSI, Volume 5 Issue 6 (2017), PP.06-09, available at https://www.ijmsi.org/Papers/Volume.5.Issue.6/B05060609.pdf.
(Journal ISSN (Online): 2321 - 4767, ISSN (Print): 2321 - 4759.) [First Author]

3. **Chatterjee, D.** (2024). "The Impact of Algorithmic Culture on the Construction of Self in a Globalized World". **Journal of Contemporary Philosophical and Anthropological Studies (JCPAS)**, 2(3). https://doi.org/10.59652/jcpas.v2i3.199[*Solo Author]

2. **Chatterjee, D.**, & Saha, S. (2025). The Philosophy of Circular Statistical Thinking in Human Cognition, Temporal Constructs & Anthropological Studies. Journal of Contemporary Philosophical and Anthropological Studies, 3(1). [First and Corresponding Author]

1. **Chatterjee, Debashis*.**"On Consistency Issue of the Definition of Mean Free Path on the Basis of Measure Theoretic Probability and Speed of Light Postulate of Relativity."AIJRSTEM (2014), 14-116, available at http://iasir.net/AIJRSTEMpapers/AIJRSTEM14-116.pdf
(Journal ISSN (PRINT): 2328-3491 ISSN (ONLINE): 2328-3580) [* First & Corresponding Author]

Published / Accepted Conference Paper/ Arxiv

4. Ghosh P, Sanyal S, **Chatterjee, D.** Revisit to a Prominent Example of The Curse of Dimensionality: Re-investigating Anomaly Behaviour of Monte Carlo Estimate of π in Higher Dimension. Published as conference paper, The 17th International Conference MSAST 2023, December 21 - 23, 2023, Kolkata, Proceedings of IMBIC Vol. 10 (ISBN 978-81-925832-9-7). pp 114-122.
https://drive.google.com/file/d/1cBTBhRYi4TeRCMImsisZA499-7FD6Xpq/view
(Supposed to be given online DOI soon).

3. **Chatterjee, D.**, & Saha, S. (2024). A deeper insight into directional skewness and kurtosis in circular statistics. **Springer Proceedings**. To be Presented at the International Conference on Recent Advances in Mathematical Sciences and Data Science (RAMSDS 2024), Adamas University, $25-26$ October, 2024. (https://www.springer.com/in/authors-editors/conference-proceedings/conference-proceedings-guidelines) (Accepted)

2. **Chatterjee, D.** & Saha, S. (2024). Hierarchical Bayesian modeling of heterogeneous circular data with applications in phase analysis. **Calcutta Statistical Association Bulletin**. To be Presented at the Eleventh International Triennial Calcutta Symposium on Probability and Statistics, organized jointly by the Department of Statistics, University of Calcutta, and Calcutta Statistical Association, December $27-30$, 2024.

   (https://journals.sagepub.com/home/csaa) (Accepted)

1. **Chatterjee, D.** & Saha, S. (2024). Enhancing Outlier Detection in Circular Time Series: A Statistical Framework Leveraging Circular Z-Scores and Dynamic Thresholding **Calcutta Statistical Association Bulletin**. To be Presented at the Eleventh International Triennial Calcutta Symposium on Probability and Statistics, organized jointly by the Department of Statistics, University of Calcutta, and Calcutta Statistical Association, December 27-30, 2024.

   (https://journals.sagepub.com/home/csaa) (Accepted)

6. **Chatterjee, Debashis,** and Sourabh Bhattacharya. "Posterior Convergence of Gaussian and General Stochastic Process Regression Under Possible Misspecifications." arXiv:1810.10495 (2018). Available at `https://arxiv.org/pdf/1810.10495`

5. **Chatterjee, Debashis,** and Sourabh Bhattacharya. "Posterior Convergence of Nonparametric Binary and Poisson Regression Under Possible Misspecifications." arXiv:2005.00234 (2020). Available at `https://arxiv.org/pdf/2005.00234`

4. **Chatterjee, Debashis,** and Sourabh Bhattacharya. "Posterior Consistency of Bayesian Inverse Regression and Inverse Reference Distributions." arXiv:2005.00236 (2020). Available at `https://arxiv.org/pdf/2005.00236`

3. **Chatterjee, Debashis,** and Sourabh Bhattacharya. "Convergence of Pseudo-Bayes Factors in Forward and Inverse Regression Problems." arXiv:2006.06020 (2020). Available at `https://arxiv.org/pdf/2006.06020`

2. **Chatterjee, Debashis,** and Sourabh Bhattacharya. "A Bayesian Multiple Testing Paradigm for Model Selection in Inverse Regression Problems." arXiv:2007.07847 (2020). Available at `https://arxiv.org/pdf/2007.07847`

1. **Chatterjee, Debashis,** and Sourabh Bhattacharya. "How Ominous is the Future Global Warming Premonition?." arXiv:2008.11175 (2020). Available at `https://arxiv.org/pdf/2008.11175.pdf` (Under revision in *Sankhya*, Series B in 2025)

Teaching Summary

Fall Semester - Visva Bharati University   August 2021 – December 2021

Course Code	Course Title	Term
BSC-SEM-6 CC-14	Real Analysis	Fall 2021
MSC-CC-25	Statistical Inference II	Fall 2021
MSC-21	Measure Theory & Advanced Real Analysis	Fall 2021

Spring Semester - Visva Bharati University   January 2022 – July 2022

Fall Semester - Visva Bharati University   August 2022 – December 2022

Course Code	Course Title	Term
BSC-SEM-6 CC-4	Algebra	Spring 2022
BSC-SEM-6 CC-14	Statistical Computing	Spring 2022
MSC-23	Regression Analysis	Spring 2022

Course Code	Course Title	Term
BSC-SEM-6 CC-14	Real Analysis	Fall 2022
MSC-21	Measure Theory & Advanced Real Analysis	Fall 2022

Spring Semester - Visva Bharati University   January 2023 – July 2023

Course Code	Course Title	Term
BSC-SEM-6 CC-14	Statistical Computing with C, C++	Spring 2023
MSC-21	Regression Techniques	Spring 2023
BSC-SEM-6 CC-4	Algebra	Spring 2023

Fall Semester - Visva Bharati University   August 2023 – December 2023

Course Code	Course Title	Term
BSC-GEC 4	Statistical Computing	Fall 2023
BSC	Sampling Distribution	Fall 2023
MSC-SEM-23	Measure Theory and Advanced Real Analysis	Fall 2023

Spring Semester - Visva Bharati University   January 2024 – July 2024

Course Code	Course Title	Term
BSC-SEM-6 CC-14	Real Analysis	Spring 2024
BSC-GEC 4	General Elective (SQC, OR, Demography)	Spring 2024
MSC-SEM-23	Regression Techniques	Spring 2024

Fall Semester - Visva Bharati University   August 2024 – December 2024

Course Code	Course Title	Term
BSC-GEC 4	General Elective (SQC, OR, Demography)	Fall 2024
MSC-SEM-23	Measure Theory and Advance real Analysis	Fall 2024
BSC-GEC 7	Statistical Computing (Old Syllabus)	Fall 2024
BSC-GEC 3	Statistical Computing (New Syllabus)	Fall 2024

Spring Semester - Visva Bharati University   January 2025 – July 2025

Course Code	Course Title	Term
BSC-SEM-6 CC-14	Real Analysis	Spring 2025
BSC-AECC	General Elective (Probability)	Spring 2025
MSC-SEM-23	Regression Techniques	Spring 2025

INVITED LECTURE /CONTRIBUTED PRESENTATIONS IN SEMINARS/WORKSHOPS

12. **Invited Lecture:** Debashis Chatterjee. 2024. An Invited lecture on using statistics to understand geological problems - on May 2025, The Geological Studies Unit Indian Statistical Institute, Kolkata.

11. **Invited Lecture Series on Nonparametric Hypothesis Testing and Statistical Machine Learning**, organized by the Department of Agricultural Statistics, Visva-Bharati University, Santiniketan. Delivered as part of a National Workshop on Advanced Statistical Methods and Applications. Scheduled on **19 February 2025** and **26 February 2025**.

    Topics covered: Rank-based Hypothesis Testing, Kernel Methods, Supervised and Unsupervised Machine Learning Techniques.

10. Debashis Chatterjee. 2024. Invited Lecture in **Calcutta Statistical Association Bulletin**. Eleventh International Triennial Calcutta Symposium on Probability and Statistics, organized jointly by the Department of Statistics, University of Calcutta, and Calcutta Statistical Association, December $27 - 30$, 2024.

9. Debashis Chatterjee. 2024. An Invited lecture on using statistics to understand geological problems - on 29th May 2024 and demonstrate hands-on the usage of statistics in deciphering the paleoclimatic condition for the short course (on the quantitative aspect of Geology) as an invited speaker of the workshop on Quantitative Palaeontology conducted by The Geological Studies Unit Indian Statistical Institute, Kolkata.

8. Debashis Chatterjee. 2023. An Invited lecture on Landmark and Shape Analysis in Natural Science Data on 22 August 2023, at the Seminar Room of the Human Genetics Unit (Kolmogorov Building), as an invited speaker of the workshop on Quantitative Palaeontology conducted by The Geological Studies Unit Indian Statistical Institute, Kolkata, from 21 to 24 August 2023.

7. Invited Tutor Instructor: (2022 July) Invited as Tutor Instructor for Tutorial Classes on Unsupervised Learning at Instructional School for Teachers at Indian Statistical Institute

6. Debashis Chatterjee. 2020. An Invited Lecture on Bayesian Inverse Regression application on Geology & paleontology. Organized Seminar: Fossils of Bengal: by Geology Studies Unit, Indian Statistical Institute, Kolkata, India.

5. Debashis Chatterjee, 2020 (postponed due to COVID-19) On Bayesian Inverse Regression at Conference of ISI-ISM-ISSAS Joint Statistical Meeting 2020. Oral presentation, Bayesian Inverse Regression, Poster: Event Presented At In- dian Statitical Institute, Kolkata, India.

4. Debashis Chatterjee. 2019. National Seminar on Application of Statistics on Natural Science. (IUCAA Center for Astronomy Research & Development), St Xaviers College (Autonomous), Kolkata

3. Debashis Chatterjee. 2018. Presentation on Bayesian Inverse Regression at CALCUTTA UNIVERSITY (10th ITCS 2018)

2. Debashis Chatterjee. 2017. On Bayesian Inverse Regression. Departmental seminar: Indian Statistical Institute

1. "National and International Statistical Systems": joint group project on data analysis and interpretation of data provided by NSSO.(National Sample Survey Office).

CONFERENCES ORGANISATION AND OTHER SERVICE TO ORGANIZATIONS

5. **Joint Convener, 2025**, National Seminar on **Recent Advances in Statistics: Theory and Applications**, organized by the Department of Statistics, Visva-Bharati University, Santiniketan, held online over two days (17 & 18 March 2025). Responsible for overall coordination, technical supervision, and content planning.

4. **Temporary Head of the Department (Acting HoD)**: Took over administrative responsibilities of the Head of the Department of Statistics, Visva-Bharati University, on several occasions during the absence of the designated HoD. Duties included meetings and overseeing official correspondences.

3. **Member, Green Committee (Visva-Bharati University)**: Contributing to institutional sustainability initiatives, environmental awareness activities, and green campus planning as a core committee member.

2. **Student Project Coordination**: Supervised and coordinated multiple M.Sc. and B.Sc. dissertation projects, including administrative liaison with examination cells and evaluation boards.

1. **Organizing Committee Member, Board of Studies Committee, Library-in-Charge**: Organization of various departmental academic & Cultural events, webinars, and student outreach programs.