CURRICULUM VITAE

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Date of Birth
3rd February, 1985

Teaching & Research Experience

- **Research**   Bidhannagar College, Kolkata
  as Principal Project Investigator   *9 Jan., 2020 - Present*
    – *Title*: Study on the Improved Estimation of Population Size based on capture-recapture technique with Applications to Socio-Economic, Demographic and Epidemiological Surveillance Counts
    – *Nature of Duty*: Being the sole Principal Investigator of the project, my responsibilities include initiation the work, giving required training to the *Project Assistant*, monitoring the development of the project towards its successful completion by achieving the goals set in the project proposal.

- **Teaching**   Bidhannagar College, Kolkata
  as Assistant Professor of Statistics   *9 Sep., 2014 - Present*
    – *Course Name & Target Students:* Statistics for B.Sc. students of Statistics Honours & General courses
    – *Nature of Duty:* Teaching (Theory & Practical)

- **Teaching**   Bidhannagar College, Kolkata
  as Assistant Professor of Statistics   *Fall Sem, 2019 - Present*
    – *Course Name & Target Students:* Biostatistics for M.Sc. Sem-I students of Botany
    – *Nature of Duty:* Teaching (Theory & Practical)

- **Teaching**   Indian Statistical Institute, Kolkata
  as Teaching Assistant   *Jan., 2013 - May, 2013, 1 Semester*
    – *Course Name & Target Students:* Time Series Analysis for MSTAT-I (1st year, M.Sc. in Statistics) Batch of ISI, Kolkata
    – *Nature of Duty:* Assisting in tutorials, demonstration of application of Time Series Analysis to real data sets through R-programming and grading of assignments on practical exercises

- **Research (for Ph.D.)**   Indian Statistical Institute, Kolkata
  as Junior & Senior Research Scholar   *25 Jan., 2010 - 8 Sep., 2014*

- **Research**   Indian Statistical Institute, Kolkata
  as Project Linked Personnel   *1 Aug., 2008 - 31 Mar., 2009*
    – *Title*: Post-Enumeration Survey for Indian Census: A Methodological Perspective
    – *Nature of Duty*: Acquiring knowledge and training on census database, census undercount estimation methods, highlighting various advantages and limitations involved in the commonly practiced methods. Grossly assisting in completion of the project as a background work for the Indian Census 2011.

Achievements

- **Research Grant**

  - Received **'Core Research Grant (CRG)'** as sole *Principal Investigator (PI)* for a project funded by **DST-SERB, Govt. of India** in January 2020; Duration: **3 years**, Sanctioned Budget: **13,46,946/- INR**.

- **Research Award/Prize**

  - **Raja Rao Memorial Prize, 2017-18** given by **Indian Statistical Institute** for *national level best research work in Survey methodology, Econometrics, Demography and related topics* in January 2018.

- **Research Fellowships**

  - **Junior Research Fellowship** award from **Indian Statistical Institute** in *Statistics* in 2013
  - **Junior Research Fellowship + Lectureship (NET)** award from **Council of Scientific and Industrial Research** (**CSIR**) in *Mathematical Sciences* in June 2009

- **Travel Grant**

  - Received **Travel Grant of 600 Euro** from **Indian Statistical Institute** for presenting my contributed paper in an *international conference held at Geneva, Switzerland* in August 2014.

Education

- **Indian Statistical Institute**   Kolkata, India
  Ph.D. in Statistics   *2016*
  - *Title of Thesis:* Some Contributions to the Analysis of Dual-record System for Estimating Human Population Size [Weblink]

- **University of Kalyani**   Kalyani, India
  M.Sc. in Statistics   *2008*
  - *Title of Project:* A New Measure of Risk (in the domain of Financial Econometrics)
  - *Special Papers Studied:* Advanced Time Series Analysis, Financial Econometrics, Applied Multivariate Analysis & Advanced Multivariate Analysis.

- **University of Calcutta (Maulana Azad College, Kolkata)**   Kolkata, India
  B.Sc.(Honours) in Statistics   *2006*

Research Articles

- **Published**
  Research Articles
  1. **Chatterjee, K.** and Mukherjee, D. `On the Estimation of Population Size under Dependent Dual-record System: An Adjusted Profile-Likelihood Approach`. *Accepted. Journal of Statistical Computation and Simulation*.
  2. Begam, M., Chowdhury, R., Sutradhar, T., Mukherjee, C., **Chatterjee, K.**, Basak, S. K. and Ray, K. (2020) `Forecasting mangrove ecosystem degradation utilizing quantifiable eco-physiological resilience -A study from Indian Sundarbans`. *Scientific Reports, a Nature Research journal*, 10, 6683 (2020). Paper Link

3. **Chatterjee, K.** and Bhuiyaan, P. (2020) `On the Estimation of Population Size from a Post-stratified Two Sample Capture-recapture Data under Dependence.` *Journal of Statistical Computation and Simulation*, 90, 819-838. Paper Link

4. **Chatterjee, K.** and Mukherjee, D. (2020). `Identifying the direction of behavioural dependence in two-sample capture-recapture study.` *Journal of Official Statistics*, 36, 25-48. Paper Link

5. Chowdhury, R., Sutradhar, T., Begam, M., Mukherjee, C., **Chatterjee, K.**, Basak, S. K. and Ray, K. (2019). `Effects of nutrient limitation, salinity increase and associated stressors on mangrove forest cover, structure and zonation across Indian Sundarbans.` *Hydrobiologia, the international journal of Aquatic Sciences*, 842, 191-217. Paper Link

6. **Chatterjee, K.** and Bhuiyaan, P. (2019). `On the estimation of Population Size from a Dependent Triple Record System.` *Journal of Royal Statistical Society, Series A.* Published online on 21 May, 2019. Paper Link

7. **Chatterjee, K.** and Mukherjee, D. (2018). `A New Integrated Likelihood for Estimating Population Size in Dependent Dual-record System.` *Canadian Journal of Statistics*, 46, 577-592. Paper Link

8. Pal, S. K., Singh, H.P., Kumar, S. and **Chatterjee, K.** (2018). `A Family of Efficient Estimators of the Finite Population Mean in Simple Random Sampling.` *Journal of Statistical Computation and Simulation*, 88, 920-934. Paper Link

9. **Chatterjee, K.** and Mukherjee, D. (2016). `On the Estimation of Homogeneous Population Size from a Complex Dual-record System.` *Journal of Statistical Computation and Simulation*, 86, 3562-3581. Paper Link

10. **Chatterjee, K.** and Mukherjee, D. (2016). `An improved integrated likelihood population size estimation in Dual-record System.` *Statistics & Probability Letters*, 110, 146-154. Paper Link

11. **Chatterjee, K.** and Mukherjee, D. (2016). `An improved estimator of omission rate for census count: With particular reference to India.` *Communications in Statistics - Theory and Methods*, 45, 1047-1062. Paper Link

12. Kumar, S. and **Chatterjee, K.** (2015). `A Simulation Study for Unit Non-response under Double Sampling.` *Journal of Statistics Applications and Probability Letters*, 2, 1-14. Paper Link

Teaching & Research Interests

- **Teaching**

    - Vector Algebra, Probability Theory, Statistical Inference & Linear Model
    - Bivariate Data Analysis & Demography
    - Statistical Computations using *R* Programming & Softwares for analysis (e.g. MINITAB)
    - Biostatistics

- **Research**

    - Capture-Recapture or Multiple Capture modeling
    - Estimation of population size (e.g. hard-to-count population or event) from several incomplete sources

– Census undercount estimation
– Statistical Computation and Simulation
– Biostatistics

List of Top Co-authors

1. Diganta Mukherjee, Sampling and Official Statistics Unit, Indian Statistical Institute, Kolkata, India.
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2. Prajamitra Bhuyan, Department of Mathematics, Imperial College London, UK.
   Email: bhuyan.prajamitra@gmail.com

3. Sunil Kumar, Departments of Statistics, University of Jammu, India.
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4. Krishna Ray, Departments of Botany, West Bengal State University, Barasat, India.
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Conferences/Seminars/Workshops

- **Invited Talks**

  1. **Invited lecture** presented in **Young Statisticians' Meet : Data Science in action** organized by Indian Statistical Institute. **Venue:** Virtual hosted by Indian Statistical Institute, Kolkata, India. **Date:** 7th March, 2021. **Title:** `Estimation of Population Size Based on Incomplete Multiple Systems`

  2. **Seminar presentation for Raja Rao Memorial Prize 2017-18** organized by Indian Statistical Institute. **Venue:** Applied Statistics Unit, Indian Statistical Institute, Kolkata, India. **Date:** 8th January, 2018. **Title:** `On the Estimation of Population Size from a Dependent Model in Dual-record System`

  3. **Invited Seminar** organized by Population Studies Unit, Indian Statistical Institute, Kolkata. **Venue:** Indian Statistical Institute, Kolkata, India. **Date:** 7th December, 2017. **Title:** `Estimation of Error in Census or Vital Events Coverage:  A New Capture-Recapture Model`

  4. **Data Dissemination Workshop on Census Data**, jointly organized by Indian Statistical Institute Library, Kolkata and Directorate of Census Operations, West Bengal. **Venue:** Indian Statistical Institute, Kolkata, India. **Date:** 10th March, 2015. **Title:** `Estimation of Omission Rate in Census Count.`

  5. Tutorial Lecture Presented in **Winter School Workshop on on Emerging Areas in Applied Statistics**, organized by Bayesian and Interdisciplinary Research Unit (BIRU), Indian Statistical Institute, Kolkata. **Venue:** BIRU, Indian Statistical Institute, Kolkata, India. **Date:** 21th March, 2013. **Title:** `Time Series Analysis with R.`

- **Contributed Talks**

1. **Bernoulli-IMS One World Symposium 2020:** A virtual one week symposium on Probability and Mathematical Statistics, jointly organized by the Bernoulli Society, the Institute of Mathematical Statistics, and the One World Probability Project. **Date:** 24-28 August, 2020. **Title:** `A New Identifiable Capture-recapture Model for Estimating Population Size..` For the prerecorded talk Click Here

2. **National Conference on Diversity in the Era of Globalization: Challenges and Management**, organized by Bidhannagar College, Kolkata. **Venue:** Bidhannagar College, Kolkata, India. **Date:** 23rd February, 2020. **Title:** `Misuse & Abuse of Statistics:  With Reference to Biological Science`

3. **Tenth International Triennial Calcutta Symposium on Probability and Statistics**, jointly organized by Department of Statistics, University of Calcutta and Calcutta Statistical Association. **Venue:** Department of Statistics, University of Calcutta, Kolkata, India. **Date:** 29th December, 2018. **Title:** `On the Estimation of Population Size from a Dependent Triple Record System`

4. **3rd Regional Science & Technology Congress, Southern Region, 2018**, jointly organized by Department of Science & Technology, Government of West Bengal and Bidhannagar College, Kolkata. **Venue:** Bidhannagar College, Kolkata, India. **Date:** 18th December, 2018. **Title:** `On the Estimation of Population Size from a Two Sample Capture-Recapture Data under Dependence`

5. **Ninth International Triennial Calcutta Symposium on Probability and Statistics**, jointly organized by Department of Statistics, University of Calcutta and Calcutta Statistical Association. **Venue:** Department of Statistics, University of Calcutta, Kolkata, India. **Date:** 28th December, 2015. **Title:** `On the Integrated Likelihood Inference for Population Size in Dual-record System`

6. **21st International Conference on Computational Statistics and also hosting the 5th IASC World Conference**, organized by University of Geneva, Switzerland. **Venue:** CICG, Geneva, Switzerland. **Date:** 21 August, 2014. **Title:** `Estimating the homogeneous population size via empirical Bayes method in a complex dual-record system.`

7. **ISBA Regional Meeting and International Workshop/Conference on Bayesian Theory and Applications**, organized by Department of Statistics, Benaras Hindu University, Varanasi. **Venue:** Benaras Hindu University, Varanasi, India. **Date:** 8th January, 2013. **Title:** `Census Coverage Error Estimation through Bayesian Approach with Time and Behavioral Response Variation.`

8. **Eighth International Triennial Calcutta Symposium on Probability and Statistics**, jointly organized by Department of Statistics, University of Calcutta and Calcutta Statistical Association. **Venue:** Department of Statistics, University of Calcutta, Kolkata, India. **Date:** 29th December, 2012. **Title:** `On the estimation of omission rate for Indian census count.`

9. **National Conference on Application of Statistics in Industry and Planning**, organized by Department of Statistics, Visva-Bharati in collaboration with Calcutta Statistical Association. **Venue:** Department of Statistics, Visva-Bharati, Shantiniketan, India. **Date:** 26th February, 2012. **Title:** `Evaluation of Coverage Error Estimation in Indian Census through Simulated Hierarchical Population.`

10. **Workshop on "Reliability Theory and Survival Analysis" organized by the Applied Statistics Unit, Indian Statistical Institute, Kolkata**. **Venue:** Applied Statistics Unit, Indian Statistical Institute, Kolkata. **Date:** 23-25 November, 2011.

Other Professional Activities & Engagements

- **Editorial Board Membership in Academic Journal:** (1) *Computer Simulation in Application* published by Whioce Publishing Pvt. Ltd., Singapore.
  (2) *American Journal of Theoretical and Applied Statistics* published by Science Publishing Group, USA.

- **Journal Refereeing:** (1) *Journal of Statistical Computation and Simulation* (Impact Factor: 0.869 at 2017),
  (2) *Communications in Statistics - Theory and Methods* (Impact Factor: 0.424 at 2018),
  (3) *Mathematical Population Studies* (Impact Factor: 0.269 at 2017),
  (4) *International Journal of Statistics and Mathematics*

- **AISHE - College Nodal Officer:** Prepared All India Survey on Higher Education (AISHE) Report under the aegises of MHRD, Govt. of India, for my present college - Bidhannagar College, Kolkata

- **Master Trainer:** Imparted training to the Enumerators and the Supervisors with the conduct of Household Enumeration (Population Enumeration) Census - 2011.

- **Paper Setting & Evaluations** of the Under-Graduate students of Statistics (Honours & General) across various universities in West Bengal, India

- **Memberships:** (1) INSTITUTE OF MATHEMATICAL STATISTICS (IMS) [Member ID: 25279]
  (2) INTERNATIONAL INDIAN STATISTICAL ASSOCIATION (IISA)

References

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