

Name: Dr. Sanghamitra Pal

Designation: Assistant Professor

Department: Statistics. West Bengal State University

Highest Degree: Ph.D.

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Education Ph.D. from **Indian Statistical Institute** in February 2004. Thesis entitled “Contributions to Emerging Techniques in Survey Sampling” under the guidance of Prof. Arijit Chaudhuri, Applied Statistics Unit, Indian Statistical Institute, Kolkata

M.Sc from Kalyani University, Nadia, W.B

Experience

From March, 2009 to till date Assistant Professor, West Bengal State University, Barasat, W.B

From March, 2001 to March, 2009 Research Officer (Statistics) in River Research Institute, Dept. of Irrigation, Govt. of W.B

Since September 2005 to June, 2006 Visiting Scientist in Applied Statistics Unit of Indian Statistical Institute (ISI, Kolkata, India). (On extraordinary leave from Dept. of Irrigation, Govt. of West Bengal)

From January, 2005 to August, 2005 Research Associate on a CSIR project entitled —Investigation of Means of Assessment of errors in Surveys by Judicious Techniquesl, in the Applied Statistics Unit of Indian Statistical Institute (ISI), Kolkata (On extraordinary leave from Dept. of Irrigation, Govt. of West Bengal)

July, 1998-Frbruary, 2001 Junior & Senior Research Fellow, Indian Statistical Institute, Kolkata

Awards

1. Best paper award in the field of Sampling Theory for the year 2002-2003 in the Journal of the Indian Society of Agricultural Statistics.
2. Best poster presentation award for the section of Statistics in 87th Indian Science Congress, Pune, 2000 for the poster entitled —On Improving Domain-wise Correlation Estimates By Borrowing Strength: An Exercise By Bootstrap Confidence Intervals

Research Interest Survey Sampling: Development for theories in Unequal Probability Sampling, Randomized Response theory, Small Area Estimation

Journal Papers

S Pal & Patra, D. (2021) Modifications on Re-scaling Bootstrap for Adaptive Sampling, *Communications in Statistics - Simulation and Computation* (Accepted for publication in Feb, 2021).

Pal, S. & Shaw, P (2021). Estimation of Finite Population Quantile by Analytical and Rescaling Bootstrap Techniques, *Thailand Statistician*. (Accepted for publication in Feb, 2021).

S Pal & Patra, D. (2021) A Prediction Approach in Adaptive Sampling, *Metron*, Jour of Italian Statistical Society (Accepted for publication in 2020, <https://doi.org/10.1007/s40300-020-00195-1>)

Shaw, P & Pal, S. (2021). Estimating Sensitive Population Proportion Permitting Options for Various Respondents' Choices, *Statistics and Applications* {ISSN 2452-7395 (online)} Volume 19, No. 2, 2021 (New Series), pp 1-19

S Pal, A Chaudhuri, D Patra (2020). How privacy may be protected in optional randomized response surveys, *Statistics in Transition new series* 21 (2)

D Patra, S Pal (2019). Privacy Protection in Optional Randomized Response Surveys for Quantitative Characteristics, *Statistics and Applications* {ISSN 2452-7395 (online)} 17 (2), 47-54.

Pal, S. & Chaudhuri, A. (2018). Model assisted estimation of sensitive proportions from randomized responses by unequal probability sampling, *Model Assisted Statistics and Applications* 13 (1), 53-61

Pal, S. (2017). Bootstrap technique for Randomized Response Surveys, *Statistics and Applications*, 15 Nos. 1&2, 15 Nos. 1&2, 79-92

Pal, S. & Roy, S. (2016). Surveying a varying probability Adaptive Sample to Estimate Cost of Hospital Treatments of sensitive diseases by RR Data Gathering, *Handbook of Statistics* 34, Pages 405-412

Pal, S. (2015). Empirical Bayesian approach with Adaptive Cluster sampling, *Statistics and Informatics in Agricultural Research* , ISBN: 978-93-84869-98-4, 96-103

Chaudhuri, A. & Pal, S. (2015). —On efficacy of empirical Bayes estimation of a finite population mean of a sensitive variable through randomized responses, *Model Assisted Statistics and Applications*, 10, no. 4, 283-288

Pal, S & Singh, S. (2012). —A new unrelated question randomized response model, *Statistics*, 46, 12 (1) , 99-109

Pal, S (2009). —Rao and Wu's Re-scaling Bootstrap Modified to achieve Extended Coverages, *Journal of Statistical Planning Inference*, 139 (10), 3552-3558

Pal, S. (2008). —Unbiasedly estimating the total of a stigmatizing variable from a complex survey on permitting options for direct or randomized responses, *Statistical Papers* (Springer Berlin / Heidelberg) , 49 (2), 157-164.

Pal, S. (2008). --Estimating arsenic affected water using adaptive sampling procedure, *River Behaviour and Control*, (ISSN 0970-9258), 2008-2009, 29 45-52

Pal, S. (2007). —Extending Takahasi-Sakasegawa's Indirect Response Technique to Cover Sensitive Surveys in Unequal Probability Sampling, *Calcutta Statistical Association Bulletin (International Journal of CU, dept of Statistics)*, 59, September-December, 265-276

Pal, S. (2007) —Estimating the proportion of people bearing a sensitive issue with an option to item count lists and randomized response —, *Statistics in Transition*, (Journal of Polish Statistical Society). 8, 301-310.

Chaudhuri, A. & Pal, S. (2007). —Estimating sensitive proportions from Warner's randomized responses in alternative ways restricting to only distinct units sampled, *Metrika*, 68 (2) , pp 147–156.

Pal, S. & Chakraborty, S. (2006) —Improvement upon Warner's model with an optional randomized response technique, *Model Assisted Statistics and Applications*, 4 (4).

Chaudhuri, A. & Pal, S (2003). —Systematic sampling: 'Fixed' versus 'Random' sampling interval", *Pak. Jour. Stat.*, 19(2), 259-271.

Chaudhuri, A. & Pal, S. (2003). —On a version of cluster sampling and its practical use", *Jour. Stat. Plan. Inf.*, 113(1), 25-34

Chaudhuri, A. & Pal, S. (2002). —On certain alternative mean square error estimators in complex survey sampling", *Jour. Stat. Plan. Inf.*, 104(2), 363-375.

Conference Papers/Invited Lectures

Prediction approach in Adaptive Cluster Sampling, Conference on Current Trends in Survey Statistics to be held from 13th -16th August 2019 in Institute for Mathematical Sciences, National University of Singapore in Singapore. (Invited)

Modifications on Rescaling Bootstrap for Adaptive Cluster Sampling, Tenth International Triennial Calcutta Symposium, 2018 held at Calcutta University, Department of Statistics, Kolkata during December 27 to December 30, 2018, (Invited)

Prediction approach in Adaptive Cluster sampling, International Indian Statistical Association (IISA) held at Hyderabad, December 28-30, 2017, (Invited)

Empirical Bayesian approach with Adaptive Cluster sampling, IASRI Conference, NewDelhi, Jan 3-5, 2015 (Invited)

Empirical Bayes estimates based on Adaptive Cluster sampling, VI-MSS Workshop on Environmental Statistic, March 2-4, 2015, ISI- Statistical and Mathematical Sciences Institute, USA, ISI, Kolkata, (Invited)

Adaptive Cluster Sampling with directional data (Jointly with Prof. Ashis Sengupta, I.S.I, Kolkata) , IISA, 2015, Pune, Dec 20-22,2015 in the session Directional Statistics, (Invited)

Survey Sampling, Winter School on Statistical Data Analysis Methods, February, 2015 IRSU, ISI, Kolkata (Invited)

Improvements of small area estimators with Kalman Filtering, International Conference—Statistics, Science and Society: New Challenges and Opportunities, 2013, IISA Conference, Chennai, (Invited)

Small area estimation of proportions of Arsenic affected wells in Bangladesh (Joint work with Prof. Partha Lahiri, University of Maryland) , The first Asian ISI Satellite Meeting on Small area Estimation SAE 2013 Conference, Bangkok, Thailand, September, 2013

Modifications on Resampling technique in case of rare population, first International Conference on Theory and Applications of statistics, Dhaka, Dec 26-28, 2010, Dhaka, Bangladesh

Sampling with rare and illusive population , International Statistical Institute Conference, August, 2009, South Africa (Invited)

Modifications on Bootstrap in case of Rare and Elusive Population IISA, 2009, Vizag Conference, (Invited).

Resampling methods for adaptive cluster sampling, German Open Conference on Probability and Statistics, Goethe-Universität, Frankfurt am Main, March 14 to 17, 2006

Rescaling Bootstrap Procedures For Generalized Regression Estimators in New Zealand Statistical Association Conference, University of Otago, Dunedin, New Zealand, 2005

Rao and Wu's re-scaling bootstrap procedure extended to cover additional possibilities, in IMS/ASA's SRMS Joint Mini Meeting On Current Trends In Survey Sampling And Official Statistics, The Ffort Radisson, Raichak, 2004

Domain-wise estimation of scarce objects by adaptive sampling and model-based borrowing of strength, 89th Indian Science Congress, Lucknow, 2002

On Improving Domain-wise Correlation Estimates By Borrowing Strength: An Exercise By Bootstrap Confidence Intervals, 87th Indian Science Congress, Pune, 2000

Other Academic Activities

- Attached in Professional Attachment Training (3 months) of ARS Scientists, FOCARS Scientists , August 2020 to Novm 2020.
- Guest Editor, Statistics and Applications, ISSN 2454-7395,2017, (Special issue Special Issue on Randomized Response Techniques and Their Applications
- Received certificate of one week online Certificate Course on DIGITAL TEACHING TECHNIQUES organized by ICT Academy from 29 Jun 2020 to 04 Jul 2020
- Organized International and National Webinar from Dept of Statistics, WBSU
- Organized National All India Survey of Higher Education (AISHE), WBSU webinar in 2020 as Joint Nodal Officer, WBSU

- Attached in Professional Attachment Training of ARS Scientists, 100th FOCARS NAARM Scientists , Novm 2014.
- Reviewer of NPTEL (Swayam) online Video Lecture Reviewer, 2014
- Organized and Chaired —Sample Survey Session, 89th Indian Science Congress, Bhubaneswar, 2012, KIIT University, Bhubaneswar, India (INVITED)
- Organized an invited session .—Sampling with rare and elusive population of International Statistical Institute Conference, 2009, South Africa, (Invited)
 - Attached in different projects of River Research Institute, Irrigation and Waterways Dept, Govt. of WB as Research Officer (Statistics) during service 2001 to 2009, March.

- Associated and Speaker with The Centre of Advanced Faculty Training (CAFT) in Agricultural Statistics and Computer Application at the Indian Agricultural Statistics, October 2012, NewDelhi (Invited)
- Attached in Professional Attachment Training (3 months) of ARS Scientists, 100th FOCARS Scientists , Nov 2014 to Feb 2015.
- NPTEL Video Lecture Reviewer (on course on Regression Analysis etc.)
- Speaker in Winter School on Statistical Data Analysis Methods, February, 2015 IRSU, ISI, Kolkata (Invited)
- Member of Board of UG, PG, Research Studies, WBSU
- Paper Setter , Moderator, External Examiner of UG, PG exams of WBSU, Burdwan University, Kalyani University, University of Calcutta , St. Xaviers College, Kolkata etc.