

Ashish Das

Born September 01, 1962, New Delhi, India. Citizen of India.

Education

Ph.D. (1989) and M.Sc. (1986) in Statistics; both from the Indian Agricultural Statistics Research Institute.

B.Sc. (1984) Honours in Mathematical Statistics; from the University of Delhi.

Professional Appointments

1. Professor: Department of Mathematics, Indian Institute of Technology Bombay, Mumbai. Since July 2007.
2. Visiting Professor: Department of Statistics, The University of Akron, Akron, OH, U.S.A. August-December 2009, January-May 2007, January-June 2005.
3. Professor: Division of Theoretical Statistics and Mathematics, Indian Statistical Institute, New Delhi. June 2003 - July 2007.
4. Associate Professor: Division of Theoretical Statistics and Mathematics, Indian Statistical Institute, New Delhi. June 1997 - May 2003.
5. Visiting Professor: Department of Statistics, The Ohio State University, Columbus, OH, U.S.A. October 1994 - September 1996.
6. Assistant Professor: Division of Theoretical Statistics and Mathematics, Indian Statistical Institute, Calcutta. November 1992 - May 1997.
7. Research Associate: Division of Theoretical Statistics and Mathematics, Indian Statistical Institute, Calcutta. June 1991 - October 1992.
8. Visiting Scientist: Division of Theoretical Statistics and Mathematics, Indian Statistical Institute, Calcutta. June 1989 - May 1991.

Collaborative Visits:

1. Department of Mathematics and Statistics, University of Northern British Columbia, Prince George, Canada. June 2018.
2. School of Mathematical Sciences, Monash University, Clayton, Australia. August 2017.
3. Department of Statistics and Actuarial Science, Simon Fraser University, Burnaby, BC, Canada. June 2017.
4. Department of Mathematics, Cleveland State University, Cleveland, OH, USA. June-July 2015.

5. Institute of Statistical Science, Academia Sinica, Taipei, Taiwan, ROC. November-December 2019, 2017, 2016, 2015, 2014, December 2013, May 2009, November-December 2005, April-May 2001.
6. The University of Hong Kong, Hong Kong SAR, China. April 2009, April-May 2008, December 2005 - January 2006.
7. Department of Statistics and Actuarial Science, University of Waterloo, Waterloo, Canada. July 1992.

Research Awards and Membership

1. Received the Indian Science Congress Association Young Scientists' Award- 1989.
2. Received the 5th M. R. Pai Memorial Award- 2009.
3. Member, Key Advisory Group on Payment Systems in India 2011-13, Ministry of Finance, Department of Financial Services.
4. Associate Editor, Journal of 'Statistics and Applications'.
5. Independent Director, Airtel Payments Bank Limited.
6. Member, Standing Committee on Centralised Information Management System, Reserve Bank of India.
7. Member, Society of Statistics Computer and Applications.
8. Member, Indian Statistical Institute.

Research Interests

1. Core Statistics: Optimal design of experiments, Fractional factorials and related combinatorics, Linear models, Supersaturated designs, Choice designs.
2. Banking: Accounting standards, Payment systems, Financial inclusion, Financial education.

Research and Teaching

1. Engaged in active research in 'Design and Analysis of Experiments' since 1987 and have brought out a number of papers as provided in the list of Core Statistics related publications.
2. Carried out in-depth policy oriented research in 'Banking and Payment Systems' since 2002 and have brought out a number of papers/technical reports as provided in the list of Banking and Payment Systems related publications.

3. Taught Statistics courses, since 1989, to the post-graduate and under-graduate students of the Indian Statistical Institute, the Ohio State University, the University of Akron and the IIT Bombay. Courses include:
Experimental Designs, Sampling Techniques, Linear Algebra, Linear Models, Multivariate Analysis, Categorical Data Analysis, Regression Analysis, Statistical Modelling, Time Series Analysis, Probability and Statistical Inference, Applied Statistics, Descriptive Statistics.
4. Involved in teaching large classes at the Ohio State University, the University of Akron and the IIT Bombay. Courses include:
Stat-427 Introduction to Prob. and Statist. for Engineering and the Science-I, Stat-428 Introduction to Prob. and Statist. for Engineering and the Science-II, Stat-135 Elementary Statistics, Stat-401 Prob. and Statist. for Engineers, Stat-260 Basic Statistics, IC-102 Data Analysis and Interpretation.
5. Ph.D. Thesis Supervisor of
 - (i) Dr. Himadri Ghosh from C.C.S. University, Meerut. Title of his thesis- “Investigations on Optimal Diallyl Cross Experiments”, 2003.
 - (ii) Dr. Soumen Manna from IIT Bombay, Mumbai. Title of his thesis- “Optimal Designs for Two-level Discrete Choice Experiments”, 2017.
 - (iii) Dr. Rakhi Singh from IIT Bombay, Mumbai. Title of his thesis- “Fractional Factorial and Related Designs– Optimality and Construction”, 2018.

Editorial and Reviewer Activities

Co-editor of the Special Issue of Statist. and Applications (2001), Vol 3.
 Co-editor of the Special Issue of Statist. and Applications New Series (2008), Vol 6.
 Organized a Special Invited Session on the topic ”Factorial Designs and Applications” at the International Indian Statistical Association Joint Meeting 2010.
 Served as a referee to Journals: Ann. Statist., Sankhya, Jour. Statist. Planning Infer., Technometrics, Comput. Statist. Data Anal., Metrika, Jour. Statist. Theory Practice, Commun. Statist. Theory Meth., Statist. and Applications, Calcutta Statist. Assoc. Bull., Jour. Indian Soc. Agric. Statist., Statist. Probab. Letters, Ars Combinatoria, and Reviewer for Mathematical Reviews.

Banking and Payment Systems Related Publications

54. Ashish Das (October 30, 2022) [Charges in the UPI System]
<http://dspace.library.iitb.ac.in/jspui/handle/100/36655>
53. Ashish Das (October 2, 2022) [Charges in Credit Card Payment System]
<http://dspace.library.iitb.ac.in/jspui/handle/100/36654>
52. Ashish Das (October 2, 2022) [Charges in Payment Systems in India]
<http://dspace.library.iitb.ac.in/jspui/handle/100/36653>
51. Amogh Das and Ashish Das (August 1, 2022) [Unified Payments Interface - A Giant in the Digital Payments Space]
<http://www.math.iitb.ac.in/~ashish/workshop/UPI-AmoghDas-2022.pdf>

50. Ashish Das (November 21, 2021) [SBI's Undue Enrichment from Exploitative Charges on UPI and RuPay Transactions- Imposition of Discriminatory and Unreasonable Charges for Transacting Digitally in a BSBDA]
<http://dspace.library.iitb.ac.in/jspui/handle/100/36652>
49. Bhavna Sharma and Ashish Das (October 1, 2021) [Merchant transactions through debit cards]
<http://dspace.library.iitb.ac.in/jspui/handle/100/36651>
48. Ashish Das (April 18, 2021) [Statement of Facts - Relating to SBI's 'Statement of clarification on media reports based on the IIT Bombay Study']
http://www.math.iitb.ac.in/~ashish/workshop/TheSBI-18_04_21.pdf
47. Ashish Das (April 11, 2021) [Regulating Basic Savings Bank Deposit Accounts - Do we need to care for these marginalized depositors?]
<http://dspace.library.iitb.ac.in/jspui/handle/100/36650>
46. Ashish Das (March 18, 2021) [The making of another NPCI]
http://www.math.iitb.ac.in/~ashish/workshop/TheNUE-18_03_21.pdf
45. Ashish Das (December 8, 2020) [Charging Consumers for Merchant Payments]
<http://dspace.library.iitb.ac.in/jspui/handle/100/25219>
44. Ashish Das (September 22, 2020) [Merchant transactions through debit cards - costs and prices]
<http://dspace.library.iitb.ac.in/jspui/handle/100/25218>
43. Ashish Das (August 24, 2020) [Deviating from the BHIM-UPI Law]
<http://dspace.library.iitb.ac.in/jspui/handle/100/25215>
42. Impact of COVID-19 on Payment Transactions. (with Suchismita Das, Aashima Jaiswal and Tushar Sonthalia) **Statist. and Applications** New Series (2020), 18, 239-251.
https://ssca.org.in/media/14_18_1_2020_SA_Ashish_COVID1.5_115MfGN.pdf
41. Ashish Das (January 7, 2020) [Discriminatory approach for RuPay debit cards: Some suggestions for corrective measures]
<http://dspace.library.iitb.ac.in/jspui/handle/100/25214>
40. Ashish Das (March 3, 2019) [To surcharge or not to surcharge! The plight of small and medium merchants]
<http://dspace.library.iitb.ac.in/jspui/handle/100/25212>
39. Ashish Das (August 19, 2018) [SBI's charges for non-maintenance of minimum balance in 2017-18 were unreasonable]
http://www.math.iitb.ac.in/~ashish/workshop/SBI-MinimumBalance-Aug_19_2018.pdf
38. Ashish Das (May 26, 2018) [Can BSBDA Depositors have Long Innings? - Be Aware and Remain Vigilant]
<http://dspace.library.iitb.ac.in/jspui/handle/100/22130>

37. Ashish Das (January 5, 2018) [BHIM UPI and BharatQR]
<http://www.math.iitb.ac.in/~ashish/workshop/UPI%201.pdf>
36. Ashish Das (December 28, 2017) [Fault Lines in Implementation of Minimum Balance Rule for Savings Bank Accounts in India]
<http://dspace.library.iitb.ac.in/jspui/handle/100/22127>
35. Digital payments in India: The road ahead (with Praggya Das) **IEEE Potentials** (2017), 36(6), 14-19. Digital Object Identifier 10.1109/MPOT.2017.2737199 Date of publication: 10 November 2017
<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8103109>
34. Ashish Das (June 26, 2017) [Basic Savings Bank Deposit Account - Complex Design, Faulty Implementation]
<http://dspace.library.iitb.ac.in/jspui/handle/100/18433>
33. Tulika Dutta and Ashish Das (May 1, 2017) [Analyzing Data of Pradhan Mantri Jan Dhan Yojana]
http://www.math.iitb.ac.in/~ashish/workshop/PMJDY_2017.pdf
32. Ashish Das (February 28, 2017) [Discovering the right MDR for India]
<http://dspace.library.iitb.ac.in/jspui/handle/100/18431>
31. Ashish Das and Praggya Das (November 28, 2016) [Sanitising Distortions in Digital Payments]
<http://dspace.library.iitb.ac.in/jspui/handle/100/18430>
30. Ashish Das (April 24, 2016) [Promotion of Payments through Cards and Digital means]
<http://dspace.library.iitb.ac.in/jspui/handle/100/18428>
29. Ashish Das (March 14, 2016) [Interest on Deposits - Moving Towards Computing Standards]
<http://dspace.library.iitb.ac.in/jspui/handle/100/18427>
28. Ashish Das (January 26, 2016) [Incentivising ATM-cash and Cheques over Electronic Transactions - A Policy Gap]
<http://dspace.library.iitb.ac.in/jspui/handle/100/18425>
27. Ashish Das (October 26, 2014) [A Myth called 'Any Branch Banking' - Service Charge Discrimination Misrepresentation of Monetary Policy Regulatory Stance]
<http://dspace.library.iitb.ac.in/jspui/handle/100/16232>
26. Ashish Das (September 17, 2014) [The Art of Living for ATMs in India]
<http://dspace.library.iitb.ac.in/jspui/handle/100/14421>
25. Ashish Das (July 21, 2014) [Banking Inclusion - A Leap Forward Clear Guidelines on Officially Valid Document]
<http://dspace.library.iitb.ac.in/jspui/handle/100/14420>
24. Ashish Das (November 26, 2013) [Banks Violating Prevention of Money-Laundering Act for Excluding the Excluded]
<http://dspace.library.iitb.ac.in/jspui/handle/100/14418>

23. Ashish Das (July 2, 2013) ['Interest' of Bank Depositors in Chaos]
<http://dspace.library.iitb.ac.in/jspui/handle/100/14417>
22. Ashish Das (July 23, 2012) [Including the Poor- Need for Reforms in Remittances in India]
<http://dspace.library.iitb.ac.in/jspui/handle/100/14395>
21. Ashish Das (July 22, 2012) [Financial Education on Remittances- Impact on Inclusive Growth]
http://www.math.iitb.ac.in/~ashish/workshop/Hadapsar_Report.pdf
20. Ashish Das (October 21, 2011) [A Rational Savings Bank Deposit Interest Rate in India]
<http://dspace.library.iitb.ac.in/jspui/handle/10054/1736>
19. Ashish Das (May 25, 2011) [Electronic Remittance System in India- Rationalization]
<http://dspace.library.iitb.ac.in/jspui/handle/10054/1735>
18. Ashish Das (May 20, 2011) [Savings Bank Accounts- Interest Rate Deregulation]
<http://dspace.library.iitb.ac.in/jspui/handle/10054/1734>
17. R.B. Barman, Ashish Das, Markus Tacke and N. Srinivasan (February, 2011) [Assessment of the Payment System With respect to Inclusiveness towards Small Remittances]
http://www.math.iitb.ac.in/~ashish/workshop/Assessment%20of%20the%20Payment%20Systems_2011.pdf
16. A Note on Demand Draft Charges Levied by Banks (with Rajeev Kumar and Prasanna Kumar) **Econo. Political Weekly** (2010), 45, 39-48.
<https://www.jstor.org/stable/pdf/25742123.pdf>
15. Ashish Das and Rakhi Agarwal (August 31, 2010) [Cashless Payment System in India- A Roadmap]
<http://dspace.library.iitb.ac.in/jspui/handle/10054/1732>
14. Comparison of Banks with Respect to Cheque Collection Policy. (with A D Naga Venkata Ramarao and C. K. Midha) **Statist. and Applications** New Series (2010), 8, 67-102.
<https://ssca.org.in/media/67.pdf>
13. Ashish Das, Rajeev Kumar and Prasanna Kumar (March 18, 2010) [A note on demand draft charges levied by banks in India]
<http://dspace.library.iitb.ac.in/jspui/handle/10054/1728>
12. Ashish Das and A D Naga Venkata Ramarao (September 10, 2009) [Rationalisation of charges levied by banks on returned cheques]
<http://dspace.library.iitb.ac.in/jspui/handle/10054/1731>
11. Ashish Das (September 1, 2009) [Why cross usage of ATMs should be free and unlimited?]
<http://www.math.iitb.ac.in/~ashish/workshop/ATMusage.pdf>

10. A D Naga Venkata Ramarao, Ashish Das and Chand Midha (August 31, 2009) [Comparison of banks with respect to cheque collection policy]
<http://dspace.library.iitb.ac.in/jspui/handle/10054/1729>
9. Amrita Ganguly and Ashish Das (August 31, 2009) [On service charges of the banks in India]
<http://dspace.library.iitb.ac.in/jspui/handle/10054/1730>
8. Ashish Das (August 31, 2009) [Some issues related to policies on cheque collections]
http://www.math.iitb.ac.in/~ashish/workshop/some_issues.pdf
7. Ashish Das (August 23, 2009) [Customers providing benefit to banks through usage of ATM and EDC machines]
<http://www.math.iitb.ac.in/~ashish/workshop/ATMfees.pdf>
6. Ashish Das (August 10, 2009) [Checks on cheques]
http://www.math.iitb.ac.in/~ashish/workshop/Check_on_cheques_2009.pdf
5. Ashish Das (November 10, 2008) [Acceptability Standards in Credit Card Industry]
<http://www.math.iitb.ac.in/~ashish/workshop/CreditCard23November10.pdf>
4. Ashish Das (April 11, 2007) [Savings bank accounts- 'interest'ing issues]
<http://www.math.iitb.ac.in/~ashish/workshop/SBrate.pdf>
3. Ashish Das and Praggya Das (August 15, 2006) [On benchmarking cheque collections in India]
<http://www.isid.ac.in/~statmath/eprints/2006/isid200608.pdf>
2. Ashish Das and Praggya Das (August 1, 2002) [Rate of interest on term deposits- A micro level study]
[http://www.math.iitb.ac.in/~ashish/workshop/interestf-r4\(01-08-02\).pdf](http://www.math.iitb.ac.in/~ashish/workshop/interestf-r4(01-08-02).pdf)
1. Streamlining Some Innovative Banking Services and an Algorithm Therefor. (with Praggya Das and M. N. Das) **Statist. and Applications** (1999), 1, 89-97.

Core Statistics Related Publications

Summary of major journal publications

Biometrika 2 papers

Statistica Sinica 5 papers

Jour. Statist. Planning Infer. 11 papers

Statist. Probab. Letters 11 papers

Metrika 6 papers

Canadian Jour. Statist. 1 paper

Australas. Jour. Comb. 4 papers

Comput. Statist. Data Anal. 1 paper

Jour. Combinatorial Designs 1 paper

Jour. Statist. -Theory Practice 4 papers

Utilitas Mathematica 3 papers

Computers & Operations Research 1 paper

Sankhya B 8 papers

Jour. Statist. Comp. Simul. 1 paper

Commun. Statist. -Theory Meth. 4 papers

86. *A*-Optimal Designs Under a Linearized Model for Discrete Choice Experiments. (with Rakhi Singh, A. M. Dean and Fangfang Sun) **Metrika** (2021), 84, 445-465.
85. On Three-Level *A*-Optimal Designs for Test-Control Discrete Choice Experiments. (with Rakhi Singh and Feng-Shun Chai) **Statist. and Applications** (2021), 19, 199-208.
84. Life and Work of Professor Alope Dey: Our Beloved Sir. (2020) **Jour. Statist. -Theory Practice** (2020), 14,.
83. *A*-Optimal Factorial Designs for Test Versus Control Comparisons. (with Feng-Shun Chai) (2020) **Jour. Statist. -Theory Practice** (2020), 14,.
82. Discriminating Between Superior $UE(s^2)$ -Optimal Supersaturated Designs. (with Feng-Shun Chai, Rakhi Singh and John Stufken) **Statist. and Applications** (2020), 18, 67-74.
81. $SUE(s^2)$ -Optimal Supersaturated Designs. (with Rakhi Singh and Daniel Horsley) **Statist. Probab. Letters** (2020), 158,.
80. Discrete Choice Experiments - A Unified Approach. (with Rakhi Singh) **Jour. Statist. Planning Infer.** (2020), 205, 193-202.
79. Characterization and Optimal Designs for Discrete Choice Experiments. (with Feng-Shun Chai and Soumen Manna) **Statist. and Applications** (2019), 17, 85-103.
78. Optimal Paired Choice Block Designs. (with Rakhi Singh and Feng-Shun Chai) **Statistica Sinica** (2019), 29, 1419-1438.

77. Efficient Algorithms Using Subiterative Convergence for Kemeny Ranking Problem. (with Prakash Singh) **Computers & Operations Research** (2018), 98, 198-210.
76. Pseudo Generalized Youden Design. (with Daniel Horsley and Rakhi Singh) **Jour. Combinatorial Designs** (2018), 26, 439-454.
75. $E(s^2)$ - and $UE(s^2)$ -Optimal Supersaturated Designs. (with Ching-Shui Cheng, Rakhi Singh and Pi-Wen Tsai) **Jour. Statist. Planning Infer.** (2018), 196, 105-114.
74. Optimal Two-level Choice Designs for Estimating Main and Specified Two-factor Interaction Effects. (with Feng-Shun Chai and Rakhi Singh) **Jour. Statist. -Theory Practice** (2018), 12, 82-92.
73. Efficient Paired Choice Designs with Fewer Choice Pairs. (with Alope Dey and Rakhi Singh) **Metrika** (2017), 80, 309-317.
72. Three-level A - and D -Optimal Paired Choice Designs. (with Feng-Shun Chai and Rakhi Singh) **Statist. Probab. Letters** (2017), 122, 211-217.
71. Optimal two-level Designs for Partial Profile Choice Experiments. (with Soumen Manna) **Statist. Probab. Letters** (2016), 116, 80-87.
70. Optimal two-level Choice Designs for any Number of Choice Sets. (with Rakhi Singh and Feng-Shun Chai) **Biometrika** (2015), 102, 967-973.
69. On the Construction of Restricted Minimum Aberration Designs. (with C. Suen and C. K. Midha) **Statist. Probab. Letters** (2014), 94, 162-169.
68. Modified Clopper-Pearson Confidence Interval for Binomial Proportion. (with Desale Habtzghi and C. K. Midha) **Jour. Statist. Theory Applications** (2014), 13, 296-310.
67. Construction of Magic Rectangles of Odd Order. (with Feng-Shun Chai and C. K. Midha) **Australas. Jour. Combin.** (2013), 55, 131-144.
66. Optimal Fractional Factorial Designs and their Construction. (with C. Suen and C. K. Midha) **Jour. Statist. Planning Infer.** (2013), 143, 1828-1834.
65. Addition of Runs to an s -level Supersaturated Design. (with V. K. Gupta, Kashinath Chatterjee and Basudev Kole) **Jour. Statist. Planning Infer.** (2012), 142, 2402-2408.
64. Optimal Supersaturated Designs for s^m Factorials in $N \not\equiv 0 \pmod{s}$ Runs. (with Feng-Shun Chai, K. Chatterjee and C. K. Midha) **Jour. Statist. -Theory Practice** (2012), 6, 169-177.
63. $E(s^2)$ -Optimal Supersaturated Designs With Odd Number of Runs. (with C. Suen) **Jour. Statist. Planning Infer.** (2010), 140, 1398-1409.
62. Trend Free Block Designs for Diallel Cross Experiments. (with Feng-Shun Chai, A. Dey and C. K. Midha) **Kageyama Special Issue - Jour. Statist. and Applications** (2009), 4, 243-250.

61. On a Method to Construct Magic Rectangles of Even Order. (with J. P. De Los Reyes, C. K. Midha and P. Vellaisamy) **Utilitas Mathematica** (2009), 80, 277-284.
60. Sensitivity Analysis of T-Distribution Under Truncated Normal Populations. (with Dale Borowiak) **Jour. Statist. Comp. Simul.** (2009), 79, 723-729.
59. On a Method to Construct Magic Rectangles of Odd Order. (with C. K. Midha, J. P. De Los Reyes and L. Y. Chan) **Statist. and Applications New Series** (2008), 6, 17-24.
58. On $E(s^2)$ -Optimal Supersaturated Designs. (with A. Dey, L. Y. Chan and K. Chatterjee) **Jour. Statist. Planning Infer.** (2008), 138, 3749-3757.
57. A Matrix Approach to Construct Magic Rectangles of Even Order. (with J. P. De Los Reyes and C. K. Midha) **Australas. Jour. Comb.** (2008), 40, 293-300.
56. On Some Efficient Partial Diallel Cross Designs. (with H. Ghosh and C. K. Midha) **Statist. Probab. Letters** (2006), 76, 1768-1774.
55. Allocating Factors to the Columns of an Orthogonal Array When Certain Interactions are Important. (with A. Dey and C. K. Midha) **Statist. Probab. Letters** (2006), 76, 1570-1577.
54. Construction and Use of Magic Squares and Magic Rectangles. (with J. P. De Los Reyes, A. Pourdarvish and C. K. Midha) **Statist. and Applications New Series** (2006), 4, 39-45.
53. A-optimal Diallel Crosses for Test Versus Control Comparisons. (with S. Gupta and S. Kageyama) **Jour. Applied Statist.** (2006), 33, 601-608.
52. Design and Analysis of Diallel Cross Experiments. **Recent Advances in Mating Designs** (eds. L. S. Kaushik and R. C. Hasija), Dhanpat Rai and Co. (2005), 5.1-5.10.
51. Optimal Designs for Estimation of Ratio of Variance Components in Diallel Crosses. (with H. Ghosh and C. K. Midha) **Sankhya B** (2005), 67, 785-794.
50. A-Efficient Balanced Treatment Incomplete Block Designs. (with A. Dey, S. Kageyama and K. Sinha) **Australas. Jour. Combin.** (2005), 32, 243-252.
49. Optimal Designs for Best Linear Unbiased Prediction in Diallel Crosses. (with H. Ghosh) **Commun. Statist. -Theory Meth.** (2005), 34, 1579-1586.
48. Small Asymmetric Fractional Factorial Plans for Main Effects and Specified Two-factor Interactions. (with A. Dey and P. Saha) **Metrika** (2005), 62, 33-52.
47. Asymmetric Fractional Factorial Plans Optimal for Main Effects and Specified Two-Factor Interactions. (with A. Dey and C. Suen) **Statistica Sinica** (2005), 15, 751-765.
46. Optimal Main Effect Plans with Nonorthogonal Blocks. (with A. Dey) **Sankhya B** (2004), 66, 378-384.
45. Optimal Diallel Cross Designs for Interval Estimation of Heredity. (with H. Ghosh) **Statist. Probab. Letters** (2004), 67, 47-55.

44. Some Series of Block Designs with Nested Rows and Columns. (with K. Sinha, S. Kageyama and G. M. Saha) **Australas. Jour. Combin.** (2004), 29, 337-347.
43. Designs for Diallel Cross Experiments with Specific Combining Abilities. (with A. Dey) **Jour. Indian Soc. Agric. Statist.** (2004), 57, 247-256.
42. Block Designs for Symmetric Parallel Line Assays with Block Size Odd. (with Feng-Shun Chai and A. Dey) **Sankhya B** (2003), 65, 689-703.
41. Efficient Control-Test Designs for Diallel Cross Experiments. **Sankhya B** (2003), 65, 671-688.
40. Variance Balanced Block Designs with Unequal Block Sizes. (with V. K. Gupta and R. Parsad) **Utilitas Mathematica** (2003), 64, 183-192.
39. Optimal Diallel Cross Designs for Estimation of Heritability. (with H. Ghosh) **Jour. Statist. Planning Infer.** (2003), 116, 185-196.
38. On a Property of Orthogonal Arrays and Optimal Blocking of Fractional Factorial Plans. (with A. Dey and C. K. Midha) **Metrika** (2003), 57, 127-135.
37. On Optimality of Some Partial Diallel Cross Designs: Corrigendum. (with A. M. Dean and S. Gupta) **Sankhya B** (2002), 64, 366.
36. Quasi-Orthogonal Arrays and Optimal Fractional Factorial Plans. (with K. Chatterjee and A. Dey) **Statistica Sinica** (2002), 12, 905-916.
35. Optimality of Orthogonally Blocked Diallels with Specific Combining Abilities. (with K. Chatterjee, K. C. Choi and S. Gupta) **Statist. Probab. Letters** (2002), 57, 145-150.
34. Nearly L -Designs for Symmetric Parallel Line Assays. (with Feng-Shun Chai) **Statist. and Applications**(2001), 3, 11-23.
33. All Magic Squares as Sums of Two Magic Squares. (with M. N. Das) **Utilitas Mathematica** (2001), 60, 193-208.
32. A -Optimal Block Designs for Parallel Line Assays. (with Feng-Shun Chai and A. Dey) **Jour. Statist. Planning Infer.** (2001), 96, 403-414.
31. On the Construction of Asymmetric Orthogonal Arrays. (with C. Suen and A. Dey) **Statistica Sinica** (2001), 11, 241-260.
30. A General Computer Program for Analysis of All Types of Two-Way Designs and Data. (with M. N. Das) **Statist. and Applications** (2000), 2, 101-103.
29. A -Efficient Block Designs for Slope Ratio Assays. (with A. Dey and S. Gupta) **Golden Jubilee Issue of Calcutta Statist. Assoc. Bull.** (2000), 50, 255-263.
28. A list of Equireplicate Balanced Block Designs. (with S. Kageyama and K. Sinha) **Bull. Fac. School Ed. Hiroshima Univ.** (2000), 49, 17-24.
27. Balanced Incomplete Block Diallel Cross Designs. (with D. K. Ghosh) **Statist. and Applications** (1999), 1, 1-16.

26. On Optimality of Some Partial Diallel Cross Designs. (with A. M. Dean and S. Gupta) **Sankhya B** (1998), 60, 511-524.
25. Optimality of a Class of Efficiency-Balanced Designs. **Statist. Probab. Letters** (1998), 39, 317-326.
24. Designs with Nearly Minimal Number of Observations and Flexible Blocking. (with A. M. Dean and W. I. Notz) **Jour. Statist. Planning Infer.** (1998), 72, 133-147.
23. Discrimination Among Equivalent Block Designs. (with K. R. Shah) **Frontiers in Probability and Statistics: International Triennial Calcutta Symposium.** Narosa Publishing House (1998), 341-349.
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