



ज़ाकिर हुसैन दिल्ली कॉलेज
(दिल्ली विश्वविद्यालय)



ZAKIR HUSAIN DELHI COLLEGE
(University of Delhi)

Faculty Details

Title	Name	
DR.	Dhiraj Kumar Singh	
Designation	Associate Professor	
Address	Department of Mathematics, Zakir Husain Delhi College, JLN Marg, Delhi 110002	
Phone Number	Office	011-23233420
	Residence	-----
	Mobile	-----
Email Id	dk Singh@zh.du.ac.in , Dhiraj426@rediffmail.com	
Web Page	http://people.du.ac.in/~dk Singh1/	
Educational Qualification		
Degree	Institution	Year
Bachelor of Science, Mathematics (Hons.)	Department of Mathematics, Vinoba Bhawe University, Hazaribag, Jharkhand.	1996
Master of Science (Mathematics)	Department of Mathematics, Vinoba Bhawe University, Hazaribag, Jharkhand.	2000
M.Phil (Mathematics)	Department of Mathematics, University of Delhi, Delhi.	May 2003
Ph.D (Mathematics)	Department of Mathematics, University of Delhi, Delhi.	February, 2009
CIC	IGNOU	September 1997
Career Profile		



1. Associate Professor, Department of Mathematics, Zakir Husain Delhi College: 18-11-2019 to ...
2. Assistant Professor, Department of Mathematics, Zakir Husain Delhi College: 15-09-2010 to 17-11-2019.
3. Assistant Professor (Adhoc), Department of Mathematics, Dyal Singh College: 25-01-2008 to 14-09-2010
4. Assistant Professor (Adhoc), Department of Mathematics, Shivaji College: 13-11-2007 to 24-01-2008.
Administrative Assignments
Convener, Career Counselling and Placement Cell
Areas of Interest / Specialization
Information Theory, Functional Equations, Bayesian Estimation.
Subjects Taught
Group Theory, Ring Theory, Statistics and Probability, Analytical Geometry, Statistical Software-R.
Research Guidance
Supervision of awarded Doctoral Thesis: 02
Supervision of Doctoral Thesis, under progress: 03
Publications Profile
<ol style="list-style-type: none"> 1. P. Nath and D.K. Singh, <i>The general solutions of a functional equation related to information theory</i>, Ratio Mathematica (Italy), 15(2005), 1 – 24. ISSN: 1592-7415 (print), ISSN: 2282-8214 (online) 2. P. Nath and D.K. Singh, <i>On a multiplicative type sum form functional equation and its role in information theory</i>, Applications of Mathematics (Czech Republic), 51 (5) (2006), 495 – 516. Impact Factor: 0.400. ISSN: 0862-7940 (print), ISSN: 1572-9109 (Online) 3. P. Nath and D.K. Singh, <i>A sum form functional equation related to various entropies in information theory</i>, Glasnik Matematički (Croatia), 43 (1) (2008), 159 - 178. Impact Factor: 0.333. ISSN: 0017-095X (Print), ISSN: 1846-7989 (Online) 4. P. Nath and D.K. Singh, <i>A sum form functional equation and its relevance in information theory</i>, The Australian Journal of Mathematical Analysis and Applications (Australia), 5(1) Article 9 (2008), pp. 1 – 18. H Index: 4. ISSN: 1449-5910 5. P. Nath and D.K. Singh, <i>On a sum form functional equation related to entropies and some moments of a discrete random variable</i>, Demonstratio Mathematica (Poland), 42 (1) (2009), 83 – 96. H Index: 2. ISSN: 0420-1213 6. P. Nath and D.K. Singh, <i>On a sum form functional equation and its applications in information theory and statistics</i>, Aequationes Mathematicae, 81 (1-2) (2011), 77-95. Impact Factor: 0.918. ISSN: 0001-9054 (Print), ISSN 1420-8903 (Online) 7. P. Nath and D.K. Singh, <i>On a functional equation containing an indexed family of unknown mappings</i>, Functional Equations in Mathematical Analysis (Edited by Themistocles Rassias and Janusz Brzdęk), Springer 52 (2011), 671-687. ISBN 978-1-4614-0055-4 8. P. Nath and D.K. Singh, <i>On a sum form functional equation and its relevance in information theory and cryptanalysis</i>, Novi Sad Journal of Mathematics (Serbia), 43 (1)

- (2013), 59-71. H Index: 1. ISSN: 1450-5444 (Print), e-ISSN: 2406-2014 (Online)
9. P. Nath and **D.K. Singh**, *On a sum form functional equation related to entropies of type (α, β)* , Asian-European Journal of Mathematics, 6 (2) (2013), (13 pages) (World Scientific). H Index: 5. ISSN: 1793-5571 (Print), ISSN: 1793-7183 (Online)
 10. P. Nath and **D.K. Singh**, *On a sum form functional equation containing three unknown mappings*, Annales Universitatis Paedagogicae Cracoviensis Studia Mathematica, 12 (2013), 69-81. Impact Factor: 0.8324. ISSN: 2081-545X (Print), e-ISSN: 2300-133X (Online)
 11. P. Nath and **D.K. Singh**, *On a sum form functional equation related to various nonadditive entropies in information theory*, Tamsui Oxford Journal of Information and Mathematical Sciences, 30 (4) (2014), 23-43. ISSN: 2222-4424 (Print), e-ISSN: 2222-4432 (Online)
 12. P. Nath and **D.K. Singh**, *On a functional equation and its corresponding sum form*, Mathematical Modeling, Optimization and Information Technology (Ed. Om Parkash), Lambert Academic Publisher (2015), 211-226. ISBN: 978-3-659-71422-1
 13. P. Nath and **D.K. Singh**, *On a functional equation arising in statistics*, Kragujevac Journal of Mathematics, 39 (2) (2015), 141-148. ISSN: 1450-9628 (Print), ISSN: 2406-3045 (Online)
 14. P. Nath and **D.K. Singh**, *Some functional equations and their corresponding sum forms*, Sarajevo Journal of Mathematics, 12 (1) (2016), 89-106. ISSN:1840-0655
 15. P. Nath and **D.K. Singh**, *On a sum form functional equation*, TWMS J. App. Eng. Math., 6 (2) (2016), 298-306. ISSN:2146-1147
 16. P. Nath and **D.K. Singh**, *On a sum form functional equation containing five unknown mappings*, Aequationes Mathematicae, 90 (6) (2016), 1087-1101. Impact Factor: 1.0. ISSN: 0001-9054 (Print), ISSN: 1420-8903 (Online)
 17. P. Nath and **D.K. Singh**, *On the stability of a functional equation*, Palestine Journal of Mathematics, 6 (2) (2017), 573-579. ISSN 2219-5688
 18. P. Nath and **D.K. Singh**, *On an equation related to nonadditive entropies in information theory*, Mathematics for Applications, 6 (2017), 31-41. ISSN 1805-3610
 19. P. Nath and **D.K. Singh**, *On some functional equations related to various entropies*, Romanian Journal of Pure and Applied Mathematics, 62(4) (2017), 505-518. ISSN: 0035-3965
 20. P. Nath and **D.K. Singh**, *On a functional equation related to information theory*, Ratio Mathematica, 32 (2017), 21-35. ISSN: 1592-7415 (print), ISSN: 2282-8214 (online)
 21. **D.K. Singh** and P. Dass, *On a functional equation related to some entropies in information theory*, Journal of Discrete Mathematical Sciences & Cryptography, 21 (3)(2018), 713-726. ISSN 0972-0529
 22. P. Nath and **D.K. Singh**, *On the general and measurable solutions of functional equations*, Annales Mathematicae Silesianae, 32 (2018), 285-294. ISSN: 0860-2107
 23. **D.K. Singh and Shveta Grover**, *On the stability and general solution of a sum form functional equation emerging from information theory*, Bulletin of Mathematical Analysis and Applications, 12(3) (2020), 1-18. ISSN: 1821-1291
 24. **D.K. Singh and Shveta Grover**, *On the stability of a sum form functional equation related to nonadditive entropies*, Journal of Mathematics and Computer Science, 23 (4) (2021), 328-340. ISSN / eISSN: 2008-949X
 25. **D.K. Singh and Sunil Kumar**, *Post-Chemotherapy Survival Range Analysis of Lung Cancer Patients Trough Statistical Software 'R'*, Journal of Biotechnology and Strategic Health Research, 5 (2), 143-147, 2021. e-ISSN: 2587-1641
 26. **D.K. Singh and Shveta Grover**, *On the stability of a sum form functional equation related to entropies of type $(\alpha; \beta)$* , Journal of Nonlinear Sciences and Applications, 14(3) (2021), 168-180. ISSN / eISSN: 2008-1901
 27. Atul Pandey, Indivar Gupta and **D.K. Singh**, *Improved Cryptanalysis of a ElGamal Cryptosystem Based on Matrices Over Group Rings*, Journal of Mathematical Cryptology, 15 (2021), 266–279. ISSN: 1862-2984
 28. **D.K. Singh and Shveta Grover**, *On a sum form functional equation emerging from statistics and its application*, Results in Nonlinear Analysis, 4 (2) (2021), 65-76. ISSN 2636-7556
 29. P. Nath and **D.K. Singh**, *On the general solutions of three functional equations*,

- Aequationes Mathematicae, 96 (2) (2022), 325-338. Impact Factor: 1.0. ISSN: 0001-9054 (Print), ISSN: 1420-8903 (Online)
30. **D.K. Singh and Shveta Grover**, *On the stability of a nonmultiplicative type sum form functional equation*, Italian Journal of Pure and Applied Mathematics, 45 (2021), 360–374. ISSN 2239-0227
 31. Poonam Garg, **Shveta Grover and D.K. Singh**, *On a functional equation related to diversity*, Montes Taurus Journal of Pure and Applied Mathematics, 4(1) (2022), 37-43. ISSN: 2687-4814
 32. Surbhi Madan, **Shveta Grover and D.K. Singh**, *On the stability of a multiplicative type sum form functional equation*, Ratio Mathematica, 41 (2021), 7-18. ISSN: 1592-7415. eISSN: 2282-8214
 33. Atul Pandey, Indivar Gupta and **D.K. Singh**, *On the security of DLCSP over $GL_n(F_q[Sr])$* , Applicable Algebra in Engineering, Communication and Computing (2021). Electronic ISSN: 1432-0622, Print ISSN: 0938-1279
 34. Surbhi Madan, Poonam Garg, Ritu Arora, **D.K. Singh**, *Estimating the Parameters of Covid-19 Cases in South Africa*, Biosciences Biotechnology Research Asia, Volume 19(1), 2022, pp. 153-162. ISSN: 0973-1245
 35. Ritu Arora, Surbhi Madan, Poonam Garg and **D.K. Singh**, *Analysis of Covid-19 Spread In Himalayan Countries*, Advances and Applications in Mathematical Sciences, 21(6), 2022, pp. 3249-3263. ISSN 0974-6803
 36. Surbhi Madan, Ritu Arora, Poonam Garg and **D.K. Singh**, *Analysis and Prediction of Covid-19 Spread using Numerical Method*, Advances in Differential Equations and Control Processes, 27, 2022, pp. 97-114. P-ISSN: 0974-3243
 37. Poonam Garg, Surbhi Madan, Ritu Arora, **D.K. Singh**, *Covid-19 cases in Morocco: A comparative analysis*, Results in Nonlinear Analysis, 5 (3), 2022, 337–346. ISSN: 2636-7556
 38. Poonam Garg, Ritu Arora, Surbhi Madan and **D.K. Singh**, *Estimation of Parameters and Stability Analysis of Coronavirus Pandemic*, Advances in Differential Equations and Control Processes, Volume 28, Pages 119 - 134, 2022. P-ISSN: 0974-3243
 39. **D.K. Singh**, Shveta Grover and Surbhi Madan, *On Some Pexider Type Sum Form Functional Equations*, Montes Taurus Journal of Pure and Applied Mathematics, 4(3) (2022), ---. ISSN: 2687-4814
 40. Atul Pandey, Indivar Gupta and **D.K. Singh**, *Simple and Efficient Group Key Distribution Protocol using Matrices*, Defence Science Journal, 72 (5), 2022, pp. 703-711. P-ISSN: 0011-748X, E-ISSN: 0976-464X
 41. Ritu Arora, Poonam Garg, Surbhi Madan and **D.K. Singh**, *Bounds For Codes Detecting Repeated Bursts in Unequal Blocks*. Bulletin of Calcutta Mathematical Society, 115(3), 2023, pp. 387-396. P-ISSN: 0008- 0659

Conference/Workshop/Seminar Organization/ Presentations (in the last five years)

1. **D.K. Singh**, Convener of the National *Workshop on “Biostatistics”* organized by Zakir Husain Delhi College (University of Delhi) during March 09-10, 2017.
2. **D.K. Singh**, Participated and worked as member of organizing committee of the National *Workshop on “Mathematical Modelling and Computational Techniques using Mathematica”* organized by Zakir Husain Delhi College (University of Delhi) during March 30-31, 2017.
3. **D.K. Singh**, Participated and worked as member of organizing committee of the National *Workshop on “Science and Technology in Ancient India”* organized by Zakir Husain Delhi College (University of Delhi) during April 17-24, 2017.
4. **D.K. Singh**, Chaired a session in the National *Conference on “Advances in Applied Mathematics and Statistics”* organized by Mata Sundri College for Women (University of Delhi) during September 7-8, 2017.
5. **D.K. Singh**, Coordinator in Faculty Development Programme on “Revisiting Gandhi Today: Questions of Caste, Class, Gender, Religion and Environment” organized by Zakir Husain Delhi College (University of Delhi) and Mahatma Hansraj Faculty Development Centre (under Pandit Madan Mohan Malviya National Mission on Teachers and Teaching (PMMMNMTT)), Hansraj College (University of Delhi), September 17-23, 2019.
6. **D.K. Singh**, Program Convener of the One Day Seminar on **Intellectual Property Rights**, organized by Zakir Husain Delhi College (University of Delhi) under DBT Star College Scheme October 01, 2022.
7. **D.K. Singh**, Program Convener of the **National Workshop (Hybrid mode) on “Introduction to Python for Meta-analysis of Data”**, organized by Zakir Husain Delhi College (University of Delhi) under DBT Star College Scheme during November 01-05, 2022.
8. **D.K. Singh**, Program Convener of the **National Workshop (Hybrid mode) on “Manipulation and Realization of Data through R”**, organized by Zakir Husain Delhi College (University of Delhi) under DBT Star College Scheme during December 16-21, 2022.
9. **D.K. Singh**, Event Coordinator of the Student Development Program on **Programing in Python** organized by Zakir Husain Delhi College (University of Delhi) under Spoken Tutorial, IIT Bombay during Oct. 1, 2020 - Oct. 15, 2020.
10. **D.K. Singh**, Event Coordinator of the Student Development Program on **R Programming** organized by Zakir Husain Delhi College (University of Delhi) under Spoken Tutorial, IIT Bombay during January 15, 2021 – January 30, 2021.
11. **D.K. Singh**, Event Coordinator of the Student Development Program on **R** organized by Zakir Husain Delhi College (University of Delhi) under Spoken Tutorial, IIT Bombay during December 21, 2022 – January 03, 2023.
12. **D.K. Singh**, Event Coordinator of the Student Development Program on **LaTeX** organized by Zakir Husain Delhi College (University of Delhi) under Spoken Tutorial, IIT Bombay during March 20, 2023 – March 30, 2023.

Research Projects (Major Grants/Research Collaboration)

1. **D.K. Singh**, Associated Member of the “DBT Star College Scheme”, Zakir Husain Delhi College sponsored by Department of Biotechnology, Ministry of Science and Technology, Govt. of India.

2. **D.K. Singh**, SERB-MATRICES scheme (MTR/2020/000508) of the Department of Science and Technology, Government of India.

Awards and Distinctions

NIL

Association With Professional Bodies

1. Indian Science Congress Association, Life Member

2. Ramanujan Mathematical Society, Life Member
3. Indian Society of Information Theory and Application, Life Member
4. Forum for Interdisciplinary Mathematics, Life Member
5. Academic of Discrete Mathematics and Applications, Life Member
6. Cryptology Research Society of India
7. Elected Joint Secretary, Forum for Interdisciplinary Mathematics (2015-2016,2017-18)

Other Activities

1. **D.K. Singh**, Course Co-Convenor of **Online Certificate Course “INTRODUCTION TO COMPUTER ALGEBRA SYSTEM: MAXIMA (AN OPEN SOURCE SOFTWARE)” 30 hours (three weeks)** organized by Hansraj College (University of Delhi) during June 27-July 24, 2020.
2. **D.K. Singh**, Course Coordinator of **Data Manipulation and Visualization through Statistical Software R** organized by Zakir Husain Delhi College (University of Delhi) under DBT Star College Scheme during July 27-31, 2020.