Kirori Mal College

(University of Delhi)
University of Delhi, Delhi-110007
(Phone No. - 011-7121 9084 : Email - principal@kmc.du.ac.in)

Print Date : 24-05-2026

1. Personal Profile

Title: **Prof.**   First Name: **RAJ**   Last Name: **KUMAR**

Designation: **PROFESSOR**   Mobile No. **----------**

Phone No. (Office) **011-71219084**   Phone No. (Residence): **----------**

Email: **rajkumar@kmc.du.ac.in**   Webpage: **----------**

Facebook: **----------**   Twitter: **----------**

LinkedIn: **----------**   Instagram: **----------**

Youtube: **----------**   Research Gate Link: **----------**

Google Scholar Link: **----------**

Address: **----------**

2. Educational Qualifications

Degree/ Certification	Institution	Year
PhD	University of Delhi	2011
M.Sc. Mathematics	IIT Delhi	1990
M.Sc. Mathematics	IIT Delhi	1990
PhD	University of Delhi	2011

3. Career Profile & Administrative Assignments

Category	Role/ Designation	Department/ Committee	Date From - To	Remarks
CAREER PROFILE	ASSISTANT PROFESSOR	MATHEMATICS KIRORI MAL COLLEGE, DELHI	02.Jul.2001 - 01.Jul.2015	
CAREER PROFILE	ASSOCIATE PROFESSOR	MATHEMATICS KIRORI MAL COLLEGE, DELHI	02.Jul.2015 - 17.Jul.2018	
CAREER PROFILE	PROFESSOR	MATHEMATICS KIRORI MAL COLLEGE, DELHI	18.Jul.2018 - Till date	

ADMINISTRATIVE ASSIGNMENTS	MEMBER	SENSATION – THE DANCE SOCIETY Kirori Mal College	01.Jul.2023 - 30.Jun.2024	
ADMINISTRATIVE ASSIGNMENTS	MEMBER	HOSTEL ADMISSION COMMITTEE Kirori mal College	01.Jul.2023 - 30.Jun.2024	
ADMINISTRATIVE ASSIGNMENTS	MEMBER	B.SC.(P) PHYSICAL SCIENCE COMMITTEE Kirori Mal College	01.Jul.2023 - 30.Jun.2024	

4. Other Profiles

Other Profile Name/ Description

SYLLABUS FORMATION

Member of committees to prepare the syllabus of four-year B.Sc./ B.A. program under NEP:

1. B.Sc. (Hons.) Mathematics, Semester- V DSE-3(iii): Mathematical Statistics.

2. Discipline A-4 (3-Core and 2-core Disciplines): Abstract Algebra.

3. Elements of Analysis for GE Course, GE-4(i): & DSC A-5, Sem-V (BA/B.Sc. Prog).

AREAS OF INTEREST/ SPECIALIZATION

Analysis and Mathematical Physics

5. Research Guidance

Year	Guide For	Title of the Dissertation/ Thesis	Scholar Name	Status
2015	Ph. D.	On generalizations of frames in Banach spaces	Ram Bharat Singh	Awarded
2018	Ph. D.	Wave Packet Frames in L^2(R^d)	Ashok Kumar Sah	Awarded
2020	Ph. D.	WAVELETS AND MULTIWAVELETS IN SOBOLEV SPACES	Manish Chauhan	Awarded
2024	Ph. D.	Frame Multiresolution Analysis (FMRA) on Locally Compact Abelian Groups	Satyapriya	Awarded
2025	Ph. D.	----	Ms. Setu Rani	Submitted
2025	Ph. D.	----	Mr.Kartik Garg	Pursuing
2025	Ph. D.	----	Mr. Brij Mohan	Submitted
2025	Ph. D.	----	Mr. Vijay Kumar	Pursuing

6. Research Projects

Year	Title of Project	Sponsorship Agency	Duration	Amount Sanctioned	Date of Sanction

| 2011 | Generalization of Frames and related Concepts in Banach spaces | UGC | | April 2010 to October 2011 | 145000 | 25.Mar.2010 |
| 2015 | Determining the Quality of Management Education in Northern India | University of Delhi | | 2014 - 15 | 3,00,000/- | 01.Dec.2014 |

7. Publications

Category	Publication Name	Title	Name of Author	Reference Link/ DOI Link	Pub (Mo Yea
JOURNAL PAPER (International)	Newly formed center-controlled rouge wave and lump solutions of a generalized (3+1)-dimensional KdV-BBM equation via symbolic computation approach	Physica Scripta	Sachin Kumar, Brij Mohan, Raj Kumar (Joint Author)	DOI 10.1088/1402-4896/ace862	July 2023
JOURNAL PAPER (International)	Riesz Multiresolution Analysis on Locally Compact Abelian Groups: Construction and Exceptions	Journal of Contemporary Mathematical Analysis	Satyapriya1, Raj Kumar, F. A. Shah (Joint Author)	https://doi.org/10.3103/S1068362323020085	May 2023
JOURNAL PAPER (International)	Lump, soliton, and interaction solutions to a generalized two-mode higher-order nonlinear evolution equation in plasma physics	Nonlinear Dynamics	Sachin Kumar, Brij Mohan, Raj Kumar (Joint Author)	doi.org/10.1007/s11071-022-07647-5	July 2022
JOURNAL PAPER (International)	Explicit construction of wavelet frames on locally compact Abelian groups	Analysis and Mathematical Physics	Raj Kumar, Satyapriya, F. A. Shah (First Author)	https://doi.org/10.1007/s13324-022-00690-w	May 2022
JOURNAL PAPER (International)	CONSTRUCTION OF A RIESZ WAVELET BASIS ON LOCALLY COMPACT ABELIAN GROUPS	Jordan Journal of Mathematics and Statistics	Satyapriya and Raj kumar (Joint Author)	DOI: https://doi.org/10.47013/15.2.7	June 2022
JOURNAL PAPER (International)	Riesz MRA of Dydic Dilations and the Corresponding Riesz Wavelet on LCA Groups	TWMS Journal of Applied and Engineering Mathematics	Raj Kumar, Satyapriya, Mansimran Singh (First Author)	https://jaem.isikun.edu.tr/web/index.php/archive/975-jaem-vol-13-no-1-2023	Marc 2023
JOURNAL PAPER (International)	Construction of a Frame Multiresolution Analysis on Locally Compact Abelian Groups	Aust. J. Math. Anal. Appl.	Raj Kumar and Satyapriya (First Author)	https://ajmaa.org/Volumes/Volume_18_Issue_1_2021.php	Febr 2021

Type	Title	Journal	Authors	DOI	Date
JOURNAL PAPER (International)	Nonstationary Multiwavelets and Multiwavelet Packets in Sobolev Space	International Journal of Applied and Computational Mathematics	Raj Kumar and Manish Chauhan (First Author)	https://doi.org/10.1007/s40819-020-00889-0	Sept 2020
JOURNAL PAPER (International)	8. Multivariate box spline wavelets in higher-dimensional Sobolev spaces	Journal of Inequalities and Applications	Raj Kumar and Manish Chauhan (First Author)	https://doi.org/10.1186/s13660-018-1839-z	Sept 2018
JOURNAL PAPER (International)	Perturbation of irregular Weyl-Heisenberg wave packet frames in L2(R)	Osaka Journal of Mathematics	Raj Kumar and Ashok K. SAH (First Author)	https://doi.org/10.18910/67014	Octo 2017
JOURNAL PAPER (International)	Invariance analysis for determining the closed-form solutions, optimal system, and various wave profiles for a (2+1)-dimensional weakly coupled B-Type Kadomtsev-Petviashvili equations	Journal of Ocean Engineering and Science	Setu Rani, Sachin Kumar, Raj Kumar (Joint Author)	https://doi.org/10.1016/j.joes.2021.12.007	Dece 2021
JOURNAL PAPER (International)	Higher-order rogue waves and dispersive solitons of a novel P-type (3+1)-D evolution equation in soliton theory and nonlinear waves	Nonlinear Dynamics	Brij Mohan, Sachin Kumar and Raj Kumar (Joint Author)	doi.org/10.1007/s11071-023-08938-1	Sept 2023
JOURNAL PAPER (International)	Novel closed-form analytical solutions and modulation instability spectrum induced by the Salerno equation describing nonlinear discrete electrical lattice via symbolic computation Mathematics and Computers in Simulation	Mathematics and Computers in Simulation	Setu Rani ,Sachin Kumar, Raj Kumar (Joint Author)	https://doi.org/10.1016/j.matcom.2023.12.031	Dece 2023
JOURNAL PAPER (International)	On investigation of kink-solitons and rogue waves to a new integrable (3+1)-dimensional KdV-type generalized equation in nonlinear sciences.	Nonlinear Dynamics	Brij Mohan, Sachin Kumar, Raj Kumar (Joint Author)	https://doi.org/10.1007/s11071-024-10792-8	Dece 2024

JOURNAL PAPER (International)	Dynamical Study of Newly Created Analytical Solutions, Bifurcation Analysis, and Chaotic Nature of the Complex Kraenkel–Manna–Merle System.	Qualitative Theory of Dynamical Systems	Setu Rani. Sachin Kumar, Raj Kumar (Joint Author)	https://doi.org/10.1007/s12346-024-01148-z	Octo 2024
JOURNAL PAPER (International)	DYADIC RIESZ WAVELETS ON LOCAL FIELDS OF POSITIVE CHARACTERISTICS	Aust. J. Math. Anal. Appl.	KARTIK GARG, RAJ KUMAR, AND SATYAPRIYA (Joint Author)		Nove 2024
JOURNAL PAPER (International)	Construction of semi-orthogonal wavelet frames on locally compact abelian groups	Annali di Matematica Pura ed Applicata (1923 -)	Satyapriya, Raj Kumar, Firdous A. Shah (Joint Author)	https://doi.org/10.1007/s10231-024-01488-2	July 2024
JOURNAL PAPER (International)	NONUNIFORM BIORTHOGONAL WAVELETS IN SOBOLEV SPACES	Journal of Mathematical Sciences	Reena, Vijay Kumar Yadav1, Raj Kumar, Manish Chauhan (Joint Author)	https://doi.org/10.1007/s10958-025-07943-6	Sept 2025
JOURNAL PAPER (International)	ON THE CONSTRUCTION OF DYADIC WAVELET FRAMES IN LOCAL FIELDS OF POSITIVE CHARACTERISTIC	The Australian Journal of Mathematical Analysis and Applications	VISHAL DHAWAN, KHALIL AHMAD, SATYAPRIYA, RAJ KUMAR (Joint Author)	https://ajmaa.org/cgi-bin/paper.pl?string=v22n2/V22I2P7.tex	Sept 2025

8. Books

Category	Book Name	Title	Name of Author	ISSN/ ISBN Number
BOOK (National)	Calculus and Geometry	Dinesh Khattar, Raj Kumar, Pratima Negi (Joint Author)	Jeevansons Publications	978-93-86376-07-7
BOOK (National)	Algebra	Raj Kumar (Sole Author)	Mayur Paperbacks	978-81-7198-167-4

9. Faculty Achievements

Year	Category of Achievement	Role	National/ International etc.	Name	Date From-To

2023	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PROFESSOR	College	Workshop for Educators on Vedic Mathematics	11.Apr.2023 - 13.Apr.2023
2024	FACULTY DEVELOPMENT PROGRAM ATTENDED	MEMBER	University	NEP 2020 Orientation & Sensitization Programme	07.May.2024 - 16.May.2024
2024	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	PARTICIPANT	College	collecting stories under digital district repository project of azadi ka amrit mahotsav	06.May.2024 - 07.May.2024
2024	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	SUBJECT EXPERT	International	International conference on Mathematical Sciences and Its Applications	15.Oct.2024 - 17.Oct.2024
2024	WORKSHOP/ SEMINAR/ CONFERENCE ATTENDED	OTHERS	College	English-Hindi-English Short Term Translation Certificate Course	05.Oct.2024 - 04.Dec.2024
2025	FACULTY DEVELOPMENT PROGRAM ATTENDED	MEMBER	University	NEP 2020 ORIENTATION & SENSITIZATION PROGRAMME	14.Feb.2025 - 22.Feb.2025

Prof. RAJ KUMAR