Curriculum Vitae

Dr. Sag Ram Verma

Assistant Professor (Level 12) of Mathematics
Department of Mathematics and Statistics
Gurukula Kangri (Deemed to be University)
Haridwar-249404 (UK), India

Google Scholar	All	Since 2021
Citations	208	191
h-index	6	6
i10-index	6	6

Email: drsrverma@gkv.ac.in; srvgkv@gmail.com
Phone: +91-9675318349
ORCID: https://orcid.org/0000-0002-1270-879X
Google Scholar/Personal Webpage: Department of Mathematics & Statistics - GK(DU)

Academic Positions

- **Assistant Professor (Level 12) of Mathematics**, [March 2019 to Present]
  Gurukula Kangri (Deemed to be University), India
- **Assistant Professor (Level 11) of Mathematics**, [March 2015 to March 2019]
  Gurukula Kangri Vishwavidyalaya, Haridwar, India
- **Assistant Professor (Level 10) of Mathematics**, [March 2011 to March 2015]
  Gurukula Kangri Vishwavidyalaya, Haridwar, India
- **Junior Research Fellow in Applied Mathematics**, [May 26, 2009 to March 26, 2011]
  Centre for Interdisciplinary Mathematical Sciences (Supported by DST, New Delhi), Banaras Hindu University, Varanasi, India

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Educational Degrees

- Doctorate (**Ph. D.** in year **2009**) in Applied Mathematics
  Indian Institute of Technology (BHU), Varanasi, India
  Thesis Title: A Study of Certain Convolution Transforms and Wavelet Transform on Functions and Distributions Spaces.
  Supervisor: **Dr. O. P. Singh** (Late Professor in IIT-BHU, Varanasi)
  Co-Supervisor: **Dr. R. S. Pathak** (Late Professor in Mathematics, BHU, Varanasi)
- Master (**M. Sc.** in year **2005**) in Mathematics
  Banaras Hindu University, Varanasi, India.
- Bachelor (**B. Sc.** in year **2003**) in Mathematics and Physics
  Dr. Ram Manohar Lohia Awadh University, Ayodhya, India.

Board Examination Courses

- Intermediate (**Senior Secondary** in year **2000**) in Science with Mathematics from U. P. Board, Allahabad, India
- High School (**Secondary** in year **1998**) in Science with Mathematics from U. P. Board, Allahabad, India

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Research Interests

- Fourier and Wavelet Analysis with its Applications
- Numerical Applications of Wavelet Frames
- Multiresolution Analysis
- Study of Wavelet Numerical Methods on various Mathematical Models
- Multidimensional and Directional Wavelet Analysis with allied Applications
- Distribution Theory: Introductory Parts

Motivational Overview on Recent Research Interests

- The hybrid Fourier–wavelet frameworks suitable for representation, analysis, and numerical approximation of functions and signals, and applicable in signal processing, image analysis, and mathematical modeling. This research provides a powerful framework for the analysis and numerical treatment of multiscale and non-stationary problems arising in science and engineering.

- However, classical wavelet systems are limited when dealing with non-stationary, irregular, or high-dimensional data. My research is motivated by the development of adaptive and operator-based wavelet systems with strong theoretical foundations and practical relevance to signal processing and numerical analysis.

- The motivation of this research lies in addressing the limitations of classical wavelets in multidimensional settings by developing and analyzing directional wavelet systems capable of capturing anisotropic structures efficiently. Multidimensional and directional wavelet analysis provides an optimal framework for sparse representation, numerical computation, and applications in image processing and scientific computing.

- This research lies in exploiting the multiresolution and localization properties of wavelets to develop efficient numerical methods for solving mathematical models with multiscale and singular behavior. Wavelet-based numerical schemes offer sparse representations, adaptive refinement, and improved accuracy, making them highly suitable for a wide range of differential and integro-differential equations.

Publications

(Peer-Reviewed Journals)

1. Deepika Patel and **Sag Ram Verma**, A Novel Laguerre Ridgelet Transform and its Application to the Poisson Equation, *Journal of Applied Mathematics and Computing*, **Vol**. 72, Article No. 84, **(January, 2026)**.

   [**ISSN**: 1598-5865 (Print); 1865-2085 (Online) and **Status**: Peer-Reviewed (Q2, SCIE, SJR and Scopus with **JCR IF**: 2.7) with **URL**: https://doi.org/10.1007/s12190-025-02746-z] (**Publisher**: Springer Heidelberg, Germany).

2. Deepak Singh and **Sag Ram Verma**, Numerical Approach for $K-\Psi$ Time Fractional Mobile/Immobile Model using Fractional-Order Wavelets, *Nonlinear Science*, **Vol**. 05, Article No. 100080, **(December, 2025)**.

   [**ISSN**: 3050-5178 (Online) and **Status**: Peer-Reviewed (**JCR IF**: Nil) with **URL**: https://doi.org/10.1016/j.nls.2025.100080] (**Publisher**: B.V., Elsevier).

3. Deepak Singh, **Sag Ram Verma**, Deepika Patel and Ashish Rayal, Fractional-Order Gegenbauer Wavelets Method to Solve the Proportional Delay Pantograph Differential Equations with Variable Coefficients, *International Journal of Dynamics and Control*, **Vol**. 13, Article No. 349, **(September, 2025)**.

   [**ISSN**: 2195-268X (Print); 2195-2698 (Online) and **Status**: Peer-Reviewed (Q2, ESCI, SJR SNIP and Scopus with **JCR IF**: 1.9) with **URL**: https://doi.org/10.1007/s40435-025-01863-8] (**Publisher**: Springer Nature, England).

4. Ankit Kumar and **Sag Ram Verma**, A New Modified Taylor Wavelets Collocation Method for Solving Convection Diffusion and Benjamina Bona Mohany Equations, *International Journal of Applied Nonlinear Science*, Vol. 04 (No. 3), pp. 241-268, **(September, 2024)**.

   [**ISSN**: 1752-2862 (Print); 1752-2870 (Online) and **Status**: Peer-Reviewed (ESCI with **JCR IF**: 0.4) with **URL**: https://doi.org/10.1504/IJANS.2024.141371] (**Publisher**: Inderscience Enterprises Ltd).

5. Ankit Kumar and **Sag Ram Verma**, A Numerical Approach Based on Modified Lucas Wavelets for Functional Variational Problems Through Integral Operational Matrix, *International Journal of Applied and Computational Mathematics*, Vol. 09 (No. 6), Article No. 138, **(November, 2023)**.

[**ISSN**: 2349-5103 (Print); 2199-5796 (Online) and **Status**: Peer-Reviewed (Q3, SJR, SNIP and Scopus with **JCR IF**: Nil) with **URL**: https://doi.org/10.1007/s40819-023-01616-1] (**Publisher**: Springer Nature India Pvt Ltd).

6. Ankit Kumar and **Sag Ram Verma**, An Orthogonal Taylor Wavelet Galerkin Numerical Method for One-Dimensional Partial Differential Equations, *Journal of Scientific Research of The Banaras Hindu University*, Vol. 67 (No. 2), pp. 96-104, **(April, 2023)**.

[**ISSN**: 0447-9483 (Print) and **Status**: Peer-Reviewed (UGC Care Coverage from September 2019 to April 2022 with **JCR IF**: Nil) with **URL**: http://dx.doi.org/10.37398/JSR.2023.670211] (**Publisher**: Banaras Hindu University).

7. Ashish Rayal and **Sag Ram Verma**, Two-Dimensional Gegenbauer Wavelets for the Numerical Solution of Tempered Fractional Model of the Nonlinear Klein-Gordon Equation, *Applied Numerical Mathematics*, **Vol**. 174, pp. 191-220, **(April, 2022)**.

[**ISSN**: 0168-9274 (Print); 1873-5460 (Online) and **Status**: Peer-Reviewed (Q1, SCIE, SJR, SNIP and Scopus with **JCR IF**: 2.4) with **URL**: https://doi.org/10.1016/j.apnum.2022.01.015] (**Publisher**: Elsevier, Netherlands).

8. Ankit Kumar and **Sag Ram Verma**, Modified Taylor Wavelets Approach to the Numerical Results of Second Order Differential Equations, *International Journal of Applied Nonlinear Science*, **Vol**. 03 (No. 2), pp. 136-155, **(December, 2021)**.

[**ISSN**: 1752-2862 (Print); 1752-2870 (Online) and **Status**: Peer-Reviewed (ESCI with **JCR IF**: 0.4) with **URL**: https://doi.org/10.1504/IJANS.2021.120124] (**Publisher**: Inderscience Enterprises Ltd).

9. S. Dixit, S. Pandey and **S. R. Verma**, A New Algorithm Based on Bernstein Polynomials Multiwavelets for the Solution of Differential Equations Governing AC Circuits: Solution of AC Circuits Governing DE using BPMWs, *Trends in Sciences*, **Vol**. 18 (No. 21), Article No. 33, **(November, 2021)**.

[**ISSN**: 2774-0226 (Online) and **Status**: Peer-Reviewed (Q2, Scopus with **JCR IF**: 0.894) with **URL**: **DOI:** https://doi.org/10.48048/tis.2021.33] (**Publisher**: Walailak University).

10. S. Dixit, S. Pandey and **S. R. Verma**, Application of Bernstein Polynomial Multi-wavelets for Solving Non-Linear Variational Problems with Moving and Fixed Boundaries, *Recent Advances in Electrical & Electronic Engineering*, **Vol**. 14 (No. 4), pp. 441-458, **(June, 2021)**.

[**ISSN**: 2352-0965 (Print); 2352-0973 (Online) and **Status**: Peer-Reviewed (Q3, ESCI, EBSCO and Scopus with **JCR IF**: 0.6) with **URL**: **DOI:** 10.2174/2352096513999201110121215] (**Publisher**: Bentham Science Publication Ltd).

11. Ankit Kumar and **Sag Ram Verma**, An Efficient Numerical Approach for Solving Abel's Integral Equations by using Modified Taylor Wavelets, *Advances in Mathematics: Scientific Journal*, **Vol**. 10 (No. 5), pp. 2285–2294, **(May, 2021)**.

[**ISSN**: 1857-8365 (Print); 1857-8438 (Online) and **Status**: Peer-Reviewed (Scopus with **JCR IF**: Nil) with **URL**: https://doi.org/10.37418/amsj.10.5.1] (**Publisher**: Research Publication, Skopje, North Macedonia).

12. Simran Sokhal and **Sag Ram Verma**, A Fourier Wavelet Series Solution of Partial Differential Equation through the Separation of Variables Method, *Applied Mathematics and Computation*, **Vol**. 388, Article No. 125480, **(January, 2021)**.

[**ISSN**: 0096-3003 (Print); 1873-5649 (Online) and **Status**: Peer-Reviewed (Q1, SCIE and Scopus with **JCR IF**: 3.4) with **URL**: https://doi.org/10.1016/j.amc.2020.125480] (**Publisher**: Elsevier Science Inc. NY, USA).

13. Ashish Rayal and **Sag Ram Verma**, Numerical Study of Variational Problems of Moving or Fixed Boundary Conditions by Muntz Wavelets, *Journal of Vibration and Control*, **Vol**. 28 (No. 1-2), pp. 214–229, **(November, 2020)**.

[**ISSN**: 1077-5463 (Print); 1741-2986 (Online) and **Status**: Peer-Reviewed (Q1, SCIE and Scopus with **JCR IF**: 2.7) with **URL**: https://doi.org/10.1177/1077546320974792] (**Publisher**: Sage Publications Ltd).

14. Ashish Rayal and **Sag Ram Verma**, Numerical Analysis of Pantograph Differential Equation of the Stretched Type Associated with Fractal-Fractional Derivatives via Fractional Order Legendre Wavelets, *Chaos, Solitons and Fractals*, **Vol**. 139, Article No. 110076, **(October, 2020)**.

[**ISSN**: 0960-0779 (Print); 1873-2887 (Online) and **Status**: Peer-Reviewed (Q1, SCIE and Scopus with **JCR IF**: 5.6) with **URL**: https://doi.org/10.1016/j.chaos.2020.110076] (**Publisher**: Pergamon-Elsevier Science Ltd).

15. Ashish Rayal and **Sag Ram Verma**, An Approximate Wavelets Solution to the Class of Variational Problems with Fractional Order, *Journal of Applied Mathematics and Computing*, **Vol**. 65, pp. 735-769, **(August, 2020)**.

[**ISSN**: 1598-5865 (Print); 1865-2085 (Online) and **Status**: Peer-Reviewed (Q2, SCIE and Scopus with **JCR IF**: 2.7) with **URL**: https://doi.org/10.1007/s12190-020-01413-9] (**Publisher**: Springer Heidelberg, Germany).

16. Shweta Pandey, Sandeep Dixit and **S. R. Verma**, An Efficient Solution of System of Generalized Abel Integral Equations using Bernstein Polynomials Wavelet Bases, *Mathematical Sciences*, **Vol**. 14, pp. 279-291, **(July, 2020)**.

[**ISSN**: 2008-1359 (Print); 2251-7456 (Online) and **Status**: Peer-Reviewed (Q2, SCIE and Scopus with **JCR IF**: 2.3) with **URL**: https://doi.org/10.1007/s40096-020-00342-9] (**Publisher**: OICC Press, England).

17. S. R. Verma and Ajendra Kumar, An Expansion of Eigenfunction Transform for Convolution on the Test Function Spaces, *International Journal of Applied Mathematics and Applications*, **Vol**.11 (No. 1), pp.73-83, **(June, 2019)**.

[**ISSN**: 0973-5844 (Print) and **Status**: Peer-Reviewed (UGC listed in 2016 with **JCR IF**: Nil) with **URL**: International Journal of Applied Mathematics and Applications] (**Publisher**: Global Research Publications).

18. S. R. Verma and Ajendra Kumar, A New Mehler-Fock Wavelet on the Space T_a, *International Journal of Mathematical Sciences*, **Vol**. 18 (No. 1-2), pp. 155-161, **(June, 2019)**.

[**ISSN**: 0972-754X (Print) and **Status**: Peer-Reviewed (UGC listed in 2016 with **JCR IF**: Nil) with **URL**: International Journal of Mathematical Sciences] (**Publisher**: Serials Publications Pvt. Ltd).

19. Meenu Devi and **S. R. Verma**, The Laguerre Wavelet Transform on the Space $L^p_{w(a)}$, *International Journal of Mathematical Sciences*, **Vol**. 16 (No. 1-2), pp. 173-184, **(June, 2017)**.

[**ISSN**: 0972-754X (Print) and **Status**: Peer-Reviewed (UGC listed in 2016 with **JCR IF**: Nil) with **URL**: International Journal of Mathematical Sciences] (**Publisher**: Serials Publications Pvt. Ltd).

20. S. R. Verma and Ajendra Kumar, Mehler-Fock Wavelet Transforms, *International Journal of Mathematical Sciences*, **Vol**. 16 (No. 1-2), pp. 135-143, **(June, 2017)**.

[**ISSN**: 0972-754X (Print) and **Status**: Peer-Reviewed (UGC listed in 2016 with **JCR IF**: Nil) with **URL**: International Journal of Mathematical Sciences] (**Publisher**: Serials Publications Pvt. Ltd).

21. Meenu Devi and **S. R. Verma**, An Evaluation of System Non-Homogeneous Differential Equations using Linear Legendre Multiwavelets, *Indian Journal of Mathematics and Mathematical Sciences*, **Vol**. 13 (No. 1), pp. 243-254, **(June, 2017)**.

[**ISSN**: 0973-3329 (Print) and **Status**: Peer-Reviewed (UGC listed in 2016 with **JCR IF**: Nil) with **URL**: Indian Journal of Mathematics and Mathematical Sciences] (**Publisher**: Serials Publications Pvt. Ltd).

22. S. R. Verma, A Convolution Structure for Eigenfunction Transform, *Impact: International Journal of Research in Engineering & Technology*, **Vol**. 03 (No. 3), pp. 69-78, **(March, 2015)**.

[**ISSN**: 2347-4599 (Print); 2321-8843 (Online) and **Status**: Peer-Reviewed (UGC listed in 2016 and IndexCopernicus with **JCR IF**: Nil) with **URL**: Welcome to impactjournals] (**Publisher**: Impact Journals, USA).

23. S. R. Verma, The Laguerre Wavelet on the Space $L^p_{w(a)}$, *International Journal of Applied Mathematics and Applications*, **Vol**. 06 (No. 1-2), pp. 155-161, **(December, 2014)**.

[**ISSN**: 0973-5844 (Print) and **Status**: Peer-Reviewed (UGC listed in 2016 with **JCR IF**: Nil) with **URL**: International Journal of Applied Mathematics and Applications] (**Publisher**: Global Research Publications).

24. S. R. Verma, Mehler-Fock Wavelet on the Distribution Space U_a, *International Journal of Mathematical Sciences*, **Vol**. 13 (No. 1-2), pp. 167-173, **(June, 2014)**.

[**ISSN**: 0972-754X (Print) and **Status**: Peer-Reviewed (UGC listed in 2016 with **JCR IF**: Nil) with **URL**: International Journal of Mathematical Sciences] (**Publisher**: Serials Publications Pvt. Ltd).

25. Meenu Devi, **S. R. Verma** and M. P. Singh, An Efficient Method of Bounded Solution of a System of Differential Equations using Linear Legendre Multiwavelets, *International Journal of Mathematics and Computer Applications Research (IJMCAR)*, **Vol**. 04 (No. 06), pp. 17-26, **(December, 2014)**.

[**ISSN**: 2249-6955 (Print); 2249-8060 (Online) and **Status**: Peer-Reviewed (UGC listed in 2016 with **JCR IF**: Nil) with **URL**: http://www.tjprc.org/journals/journal-of-mathematics] (**Publisher**: Transstellar Journal Publications and Research Consultancy Private Limited (TJPRC Pvt Ltd)).

26. Meenu Devi, **S. R. Verma** and M. P. Singh, Solving Differential Equations of Second Order using Quadratic Legendre Multiwavelets (QLMW) with Operational Matrix of

Integration, *International Journal of Computer Applications*, **Vol**. 75 (No. 15), pp. 43-49, **(August, 2013)**.

[**ISSN**: 0975-8887 (Print) and **Status**: Peer-Reviewed (UGC listed in 2016 with **JCR IF**: Nil) with **URL**: https://doi.org/10.5120/13190-0912] (**Publisher**: Foundation of Computer Science (FCS) Inc., NY, USA).

27. R. S. Pathak and **S. R. Verma**, Eigenfunction Wavelet Transform, *Integral Transforms and Special Functions*, **Vol**. 20 (No. 12), pp. 883-896, **(October, 2009)**.

[**ISSN**: 1065-2469 (Print); 1476-8291 (Online) and **Status**: Peer-Reviewed (Q2, SCIE, and Scopus with **JCR IF**: 1.0) with **URL**: https://doi.org/10.1080/10652460902972542] (**Publisher**: Taylor & Francis Ltd).

28. R. S. Pathak and **S. R. Verma**, Jacobi Convolution of Distributions, *The Mathematics Student*, **Vol**. 76 (No. 1-4), pp. 17-28, **(December, 2007)**.

[**ISSN**: 0025-5742 (Print) and **Status**: Peer-Reviewed (Q4 and Scopus with **JCR IF**: Nil) with **URL**: mathstudent2007.pdf] (**Publisher**: The Indian Mathematical Society).

Publications

(Non-Reviewed Preprinted Articles)

1. Deepak Singh and **Sag Ram Verma**, Fractional Order Jacobi Wavelet-Based Numerical Analysis of Fractal-Fractional Multi-Pantograph Delay Differential Equation with Variable Coefficients, *Research Square*, **License under a CC BY 4.0**, **(February 15, 2024)**. [**Views**: 182 Times and **Downloads**: 27 Times]

[**ISSN**: 2693-5015 (Online) and **Status**: Non-Reviewed (**JCR IF**: Nil) with **URL**: https://doi.org/10.21203/rs.3.rs-3950432/v1] (**Publisher**: Research Square).

Number of Accepted/Communicated Publications

Total**: 01/07**

Books: 02

- A. R. Verma, Y. Kumar and **S. R. Verma**, *Basic and Advance Python Programming (1st ed.)*, Nipa Genx Electronic Resources & Solutions Pvt Ltd (New Delhi, India), **(August, 2023)**. [**ISBN**: 978-93-91383-63-3; URL: https://doi.org/10.59317/9789394490499]
- H. Kumar and **S. R. Verma**, *Differential Calculus (1st ed.)*, Sara Book Publication (Ahmedabad, India), **(March, 2016)**. [**ISBN**: 978-1-63040-833-6; URL: https://sarapublication.com/DIFFERENTIAL-CALCULUS_1609137120_90.jpg]

Book Chapters in Edited Books: 05

- S. Sokhal, **S. R. Verma**, "Fuzzy-Based Local Fractional Fourier Series using Fuzzy Numbers," in *Smart Computing*, CRC Press, London, pp. 466-471, **(June, 2021)**. [**ISBN**: 978-0-367-76552-1 (Hbk) & URL: https://doi.org/10.1201/9781003167488-55].
- Ankit Kumar, **Sag Ram Verma**, "Modified Taylor Wavelet Galerkin Method for the Numerical Solution of One-Dimensional Partial Differential Equations," in *Smart Computing*, CRC Press, London, pp. 461-465, **(June, 2021)**. [**ISBN**: 978-0-367-76552-1 (Hbk) & URL: https://doi.org/10.1201/9781003167488-54].
- Shweta Pandey, Sandeep Dixit and **Sag Ram Verma**, "Bernstein Polynomial Multiwavelets Direct Method for Certain Physical Variational Problems," in *Smart Computing*, CRC Press, London, pp. 478-483**, (June, 2021)**. [**ISBN**: 978-0-367-76552-1 (Hbk) & URL: https://doi.org/10.1201/9781003167488-57].
- Shweta Pandey, Sandeep Dixit and **Sag Ram Verma**, "Bernstein Polynomial Multiwavelets Operational Matrix for Solution of Differential Equation," in *Mathematical Analysis I: Approximation Theory (ICRAPAM 2018, New Delhi, India, October 23-25)*, Springer Nature Singapore Pvt. Ltd., pp. 37-46**, (February, 2020)**. [**ISBN**: 978-981-15-1152-3 (Hbk) & URL: https://doi.org/10.1007/978-981-15-1153-0_3]
- Shweta Pandey, Sandeep Dixit and **Sag Ram Verma**, "New Stable Numerical Inversion of Generalized Abel Integral Equation" in *Logistics, Supply Chain and Financial Predictive Analytics (Theory and Practices)*, Springer Nature Singapore Pvt. Ltd., pp. 111-123, **(August, 2018)**. [**ISBN**: 978-981-13-0871-0 (Hbk) & URL: https://doi.org/10.1007/978-981-13-0872-7_10]

Number of Book Proposal/Book Chapter Accepted

Total: 02

Research Projects and Grants

Total: Nil

Teaching Experience

Undergraduate Courses

- Calculus I
- Real Analysis
- Logic and Sets
- Statics
- Dynamics
- Fluid Mechanics
- Analytical Geometry
- Vector Calculus

Graduate Courses

- Fourier Transform and Wavelet Analysis
- Functional Analysis
- Advanced Real Analysis
- Numerical Analysis
- Measure Theory
- Topology
- Metric Space

Research Supervision

- **Ph. D. Scholars**: 08 [Completed: 04 & Ongoing: 04]

S. No.	Name of Student	Registration No. (Date)	Title of Thesis	Status with Submitted & Awarded Date	No. of Guide/Co-Guide
1	Ashish Rayal	**16071** (31-03-2017)	Extension of Wavelet Theory in Quantum Mechanics	Submitted: **15.10.2020** Awarded: **28.07.2021**	**Sole**
2	Shweta Pandey	**16066**	Abel Inversion and Solution of Certain Variational and	Submitted: **24.04.2021**	**With one Co-Guide**

		(31-03-2017)	Nonlinear Problems Using Wavelets Based-Operational Matrices and Iterative Techniques	Awarded: **05.01.2022**	
3	Ankit Kumar	**16077** (31-03-2017)	A Study of Certain Mathematical Models through Wavelets Iterative Methods	Submitted: **24.08.2021** Awarded: **28.02.2022**	**Sole**
4	Simran Sokhal	**17028** (31-03-2018)	A Certain Study of Fuzzy Differential Equations through Wavelet Theory	Submitted: **26.10.2021** Awarded: **07.03.2022**	**Sole**
5	Deepak Singh	**20037** (30-09-2021)	Study of Wavelets on Fractal and Fractional Mathematical Models	Submitted: **30.11.2025**	**Sole**
6	Deepika Patel	**21033** (10-10-2022)	Analytical Study of Wavelets and Ridgelets on Certain Mathematical Models	Ongoing	**Sole**
7	Digvijay	**21034** (10-10-2022)	Analytical Study of Wavelets and Curvelets on Mathematical Models	Ongoing	**Sole**
8	Shubham Kamboj	**21053** (10-10-2022)	Study of Wavelets and Curvelets on Inner Product Space	Ongoing	**With one Co-Guide**

- **M. Sc. Dissertation**: 01 [Completed]

S. No.	Name of Student	Roll No.	Title of Dissertation	Status with Date	No. Guide
1	Tarun Kumar	215701034	A Study of Integration Using Euler-Maclaurin Expansion	Completed: **25.07.2023**	**Sole**

Training Programmes: 05

- Online Faculty Development Programme on "***Advancement in IoT using Artificial Intelligence and Machine Learning***" jointly organized by Govind Ballabh Pant Institute of Engineering & Technology, Pauri Garhwal (Uttarakhand) and the Electronics and ICT Academy (Phase II), Pandit Dwarka Prasad Mishra Indian Institute of Information

Technology, Design and Manufacturing, Jabalpur (Madhya Pradesh), during **May 08-22, 2025**.

- UGC-Sponsored Programme on "***76th Online Refresher Course: Mathematics & Statistics***" organized by Human Resource Development Centre, Sardar Patel University, Vallabh Vidyanagar, Anand (Gujarat), during **November 14-27, 2022**, and obtained B Grade.
- UGC-Sponsored Refresher Course in "***Research Methodology on the theme IPR, ICT in Research and Inter Disciplinary Aspects of Research***" organized by Human Resource Development Centre, Bhagat Phool Singh Mahila Vishwavidyalaya, Khanpur Kalan, Sonipat (Haryana), during **June 18** to **July 01, 2019**, and obtained A Grade.
- UGC-Sponsored Programme on "***Refresher Course in Mathematics***" organized by UGC Academic Staff College, Kurukshetra University, Kurukshetra (Haryana), during **March 01-21, 2014**, and obtained A Grade.
- UGC-Sponsored Course on "***Orientation Programme-19***" organized by UGC Academic Staff College, Kumaun University, Nainital (Uttarakhand), during **May 03-30, 2012**, and obtained A Grade.

Invited Talks in Organized Programme: 04

- Delivered a talk entitled "**Fundamental of Wavelets Theory and Its Applications**" in the Programme (Sponsored by TEQIP-III) on "*One Week Online International Faculty Development Programme on Deep Learning & Computational Intelligence in Internet Era*", organized by the Department of Computer Science and Engineering, G. B. Pant Institute of Engineering & Technology, Pauri Garhwal (Uttarakhand), during **July 27-31, 2020**.
- Delivered a talk entitled "**Algebraic Polynomial and Its Applications**" in International Conference (Sponsored by TEQIP-III) on "*SMARTCOM*", organized by the Department of Electronics, Electrical and Computer Science Engineering, G. B. Pant Institute of Engineering & Technology, Pauri Garhwal (Uttarakhand), during **June 26-27, 2020**.
- Delivered a talk entitled "**Kontorovich-Lebedev Wavelet Transform**" in National Conference (Sponsored by the Department of Higher Education, Government of Uttar Pradesh) on "*Current Trends in Applied Sciences*", jointly organized by IQAC & Faculty of Science, J. V. Jain College, Saharanpur (Uttar Pradesh), during **March 18-19, 2017**.
- Delivered a talk entitled "**Efficient Algorithm to Evaluate the Hankel Transform Using B-Polynomial Multiwavelets**" in the training program (Sponsored by the Sikkim Manipal Institute of Technology) on "*Application of Mathematical Methods in Physical*

Problem", organized by the Department of Mathematics, Sikkim Manipal Institute of Technology, Majitar, East Sikkim (Sikkim), during **December 18-23, 2009**.

Participated Conferences/Workshops: 06 [Minimum one Week]

- Participated in the workshop (Sponsored by Gurukula Kangri Vishwavidyalaya) on "*Scientific Computing: Theory and Practices*" organized by the Department of Applied Mathematics, Faculty of Engineering & Technology, Gurukula Kangri Vishwavidyalaya, Haridwar (Uttarakhand), during **October 08-13, 2012**.
- Participated in the programme (Sponsored by Gurukula Kangri Vishwavidyalaya) on "*National Workshop on Research Methodology for Researchers & Young Faculty Members*" organized by the Department of Adult Continuing Education & Extension, Gurukula Kangri Vishwavidyalaya, Haridwar (Uttarakhand), during **February 22-28, 2012**.
- Participated in the programme (Sponsored by Karori Mal College) on "*International Workshop on Wavelets, Frames and Applications*" organized by the Department of Mathematics, Karori Mal College, University of Delhi, New Delhi (Delhi), during **December 15-21, 2011**.
- Participated in the workshop (Sponsored by DST, New Delhi) on "*Advanced Training Programme in Functional Analysis-2009*" organized by DST-Centre for Interdisciplinary Mathematical Sciences, Banaras Hindu University, Varanasi (Uttar Pradesh), during **June 21** to **July 03, 2010**.
- Participated in the programme (Sponsored by DST-CIMS) on "*LaTeX and other Open-Source Software*" organized by DST-Centre for Interdisciplinary Mathematical Sciences, Banaras Hindu University, Varanasi (Uttar Pradesh), during **April 01-09, 2009**.
- Participated in the programme (Sponsored by DST, New Delhi) on "*Instructional Workshop on Wavelet Analysis*" organized by the Department of Mathematics, Banaras Hindu University, Varanasi (Uttar Pradesh), during **October 22** to **November 05, 2007**.

Academic and Administrative Services

- Reviewer in Journals:

  Nonlinear Dynamics

  Applied Mathematics and Computing

  Journal of Mathematical Analysis and Applications

Journal of Vibration and Control

Recent Advances in Electrical & Electronic Engineering

Trends in Sciences

Applied Numerical Mathematics

- Departmental Admission Committee Member from session 2011-2012 to 2025-2026.
- Examiner of Gurukula Kangri (DU), Haridwar from session 2011-2012 to 2025-2026.
- Member of Departmental Research Committee from session 2014-2015 to 2025-2026.
- Departmental Research Advisory Committee member from Session 2017-2018 to 2025-2026.
- UP-Scholarship Committee member of Faculty of Science from Session 2014-2015 to the Session 2025-2026.
- UK-Scholarship Committee member of Faculty of Science from Session 2014-2015 to the Session 2025-2026
- Coordinator, PWD Cell, Gurukula Kangri Vishwavidyalaya, Haridwar from May 10, 2011 to March 01, 2022.
- Nodal Officer, PWD Cell, Gurukula Kangri (DU), Haridwar from March 02, 2022 to till.

Awards and Honors

- Awarded UGC Research Fellowship for Ph. D. degree and this is approved by the UGC, New Delhi, **(2007)**.

Professional Memberships

- Membership No.: L26036
  Mathematical Sciences (Includ. Statistics)
  The Indian Science Congress Association 14,
  Dr. Biresh Guha Street, Kolkata-700017

Technical Skills

- Mathematical Software: MATLAB, Mathematica, LaTeX
- Programming: Python, R (signal processing libraries)

References

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