




## Faculty Details Proforma



Title	<b>Prof.</b>	First Name	<b>Varinder</b>	Last Name	<b>Kumar</b>	Photograph
Designation	<b>Professor</b>					
Address	A-88, Sudershan Park, New Delhi 110015.					
Date of Birth	26 <sup>th</sup> July					
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Web-Page						

### Educational Qualifications

Degree	Institution	Year
B.Sc.(H) Mathematics	Kirori Mal College, University of Delhi	2003
M.Sc. Mathematics	Kirori Mal College, University of Delhi	2005
Ph.D.	Department of Mathematics, University of Delhi	2011
GATE	IIT Kanpur	2007

### Career Profile

- Worked as **Associate Professor** in the Department of Mathematics, Shaheed Bhagat Singh College, University of Delhi from **11.07.2021 – 30.06.2024**.
- Worked as **Assistant Professor** in the Department of Mathematics, Shaheed Bhagat Singh College, University of Delhi from **25.01.2011 – 10.07.2021**.
- Worked as **Fellow in Mathematics, Institute of Lifelong Learning**, University of Delhi from **13/01/2015-12/01/2017 (On Deputation)**.
- Worked as **Assistant Professor (Temp.)** in St. Stephen's College, University of Delhi, Delhi-110007 from **03.08.2010 to 24.01.2011**.
- Worked as **LECTURER (Ad-hoc)** in Deen Dayal Upadhyaya College, Shivaji Marg, Karam Pura, New Delhi – 110015 from 16.07.2009 to 17.02.2010 (7 months).
- Worked as **LECTURER (Ad-hoc)** in Deen Dayal Upadhyaya College, Shivaji Marg, Karam Pura, New Delhi – 110015 from 03.11.2008 to 23.04.2009 (5 months and 20 days).

- Worked as Research Scholar (**JRF** 01.07.2006-30.06.2008 & then **SRF** 01.07.2008 – 30.06.2009) in the Department of Mathematics, University of Delhi from September 2005- September 2011.

### Areas of Interest / Specialization

Functional Analysis, Theory of Frames, Wavelet Analysis, Data Analysis

### Papers Taught

**Group Theory I, Group Theory II, Discrete Mathematics, Linear Algebra, Numerical Methods, Analysis I, Analysis II, Number Theory, Ring Theory and Linear Algebra I, Ring Theory and Linear Algebra II, Mathematical Finance**

### Research Guidance

#### PhD scholars

Under Supervision	Submitted	Awarded
3	-	2

#### M.Phil Scholars

Under Supervision	Submitted	Awarded
-	-	1

#### M.A. Dissertations

Under Supervision	Awarded
-	-

### Publications Profile

Books				
Title	ISBN/Publisher/Link	Indexed etc if any	Scopus	Year
An Introduction to	978-81-932671-0-3			2016

<b>Linear Algebra (for Beginners)</b>							
<b>Research Publications</b>							
<b>Article Name</b>	<b>Publication Type (UGC Care/ Scopus / Web of science etc)</b>	<b>Journal Name</b>	<b>ISSN No</b>	<b>Volume</b>	<b>Year</b>	<b>URL</b>	<b>DOI</b>
<i>Controlled g-frames and Their g-duals</i>	Scopus	Palestine Journal of Mathematics	ISSN 2219-5688	13 (4)	2024		
<i>Scalability of Generalized Frames for Operators</i>	Scopus	Journal of function spaces	2314-8896 (Print), 2314-8888 (Online)	24	2024		
<i>On Some Properties of Generalized Frames for Operators,</i>	Scopus	Poincare Journal of Analysis and Applications,	ISSN: 2349-6789 (print), 2349-6797 (online)	10 (Special issue)	2023		

<b><i>On Cones Associated with Schauder Frames</i></b>	<b>Scopus</b>	Jordan Journal of Mathematics and Statistics (JJMS)	<b>P-ISSN 2075 - 7905, E-ISSN 2227-5487</b>	10(4)	<b>2017</b>		
<b><i>Cones associated with frames in Banach Spaces</i></b>	<b>Scopus</b>	Palestine Journal of Mathematics	<b>2219-5688</b>	7(2)	<b>2018</b>		
<b><i>Some results on the existence of frames in Banach spaces</i></b>	<b>Scopus</b>	Poincare Journal of Analysis and Applications	ISSN: <b>2349-6789</b> (print), <b>2349-6797</b> (online)		<b>2018</b>		
<b><i>Vanishing moments of wavelet packets and wavelets associated with Riesz projectors</i></b>		Proceedings of International Conference on Sampling Theory and Applications 2017 ( <b>SampTA-2017</b> ),	<b>Electronic ISBN: 978-1-5386-1565-2</b>		<b>2017</b>		<a href="#">10.1109/SA-MPTA.2017.8024358</a>
<b><i>Wavelet packets and their vanishing moments</i></b>	<b>Scopus</b>	Poincare Journal of Analysis and Applications	ISSN: <b>2349-6789</b> (print), <b>2349-6797</b>	<b>2017</b>	<b>2017</b>		

			(online)				
<b><i>On the existence of non-linear frames</i></b>	<b>Scopus</b>	Archivum Mathematicum	<b>ISSN 1212-5059</b> (electronic) <b>ISSN 0044-8753</b> (print)	53(2)	<b>2017</b>		
<b><i>Wavelet Packet Approximation</i></b>	<b>Scopus</b>	Integral Transforms and Special Functions	ISSN: <b>1065-2469</b> (Print), <b>1476-8291</b> (Online).	Vol. 27 No. 9	<b>2016</b>		
<b><i>Vanishing Moments of Hilbert Transforms of Wavelets</i></b>	<b>Scopus</b>	Poincare J. Anal. Appl.	<b>2349-6789</b> (print), <b>2349-6797</b> (online)	<b>2015</b> (2)	<b>2015</b>		
<b><i>Approximations using Hilbert Transform of Wavelets</i></b>	<b>Scopus</b>	J. Classical Anal.	ISSN: <b>1848-5979</b> (print), <b>1848-5987</b> (online)	<b>Vol. 7(2)</b>	<b>2015</b>		

<b>Frame of Subspaces for Banach Spaces</b>	<b>Scopus</b>	International Journal of Wavelets, Multiresolution and Information Processing (IJWMIP) (World Scientific)	<b>Print ISSN: 0219-6913 Online ISSN: 1793-690X</b>	<b>8 (2)</b>	<b>2010</b>		
<b>A Note on Fusion Banach Frames</b>	<b>Scopus</b>	Archivum Mathematicum (Brno)	<b>1212-5059</b> (electronic) <b>0044-8753</b> (print)	<b>46</b>	<b>2010</b>		
<b>A Note on AD-Frames in Banach Spaces</b>		in Proc Third National Conference on Mathematical techniques: Emerging Paradigms for Electronics and IT Industries			<b>2010</b>		
<b>On Fusion Frames in Banach Spaces</b>	<b>Scopus</b>	Georgian Mathematical Journal	<b>1572-9176</b>	Vol 18 No 1	<b>2011</b>		
<b>AD-Frames satisfying property B</b>		Communications in Mathematics and Applications (Special Issue)	<b>0975-8607 (Online); 0976-5905 (Print)</b>	Vol 3 No 3	<b>2012</b>		

Publications other than journal articles							
Title of Publication	Type of Publication	Publisher	Role in Publication	ISBN Number	Year	URL	Level
Differential Equations and Mathematical Modeling III	<b>e-Book</b>	Institute of Lifelong Learning, University of Delhi	Editor	<b>978-93-86264-05-3</b>	2016	vle.du.ac.in	<b>UG</b>
Probability and Statistics	<b>e-Book</b>	Institute of Lifelong Learning, University of Delhi	Editor	<b>978-93-86264-02-2</b>	2016	vle.du.ac.in	<b>UG</b>
Algebra-III	<b>e-Book</b>	Institute of Lifelong Learning, University of Delhi	Editor	<b>978-93-86264-00-8</b>	2016	vle.du.ac.in	<b>UG</b>

		Delhi					
Algebra-IV	<b>e-Book</b>	Institute of Lifelong Learning, University of Delhi	Editor	<b>978-93-86264-03-9</b>	2016	vle.du.ac.in	<b>UG</b>
Algebra-V	<b>e-Book</b>	Institute of Lifelong Learning, University of Delhi	Editor	<b>987-93-86264-06-0</b>	2016	vle.du.ac.in	<b>UG</b>
Linear Programming and Theory of Games	<b>e-Book</b>	Institute of Lifelong Learning, University of Delhi	Editor	<b>978-93-86264-01-5</b>	2016	vle.du.ac.in	<b>UG</b>
Calculus- II (Multivariate Calculus )	<b>e-Book</b>	Institute of Lifelong Learning	Editor	<b>978-93-86264-04-6</b>	2016	vle.du.ac.in	<b>UG</b>

		g, Universi ty of Delhi					
Group Theory II	<b>e-Book</b>	Institute of Lifelong Learnin g, Universi ty of Delhi	Editor	<b>978-93- 86264-07-7</b>	2016	Vle.du .ac.in	<b>UG</b>
Ring Theory & Linear Algebra I	<b>e-Book</b>	Institute of Lifelong Learnin g, Universi ty of Delhi	Editor	<b>978-93- 86264-08-4</b>	2016	Vle.du .ac.in	<b>UG</b>
Ring Theory & Linear Algebra II	<b>e-Book</b>	Institute of Lifelong Learnin g, Universi ty of Delhi	Editor	<b>978-93- 86264-09-1</b>	2016	Vle.du .ac.in	<b>UG</b>
<b>Conference/ workshop Organized</b>							

- **Convener of International Conference on Applicable Analysis (ICAA 2017)** organized by Department of Mathematics, Shaheed Bhagat Singh College, University of Delhi at Satyakam Bhawan, New Social Sciences Block, North Campus during **08<sup>th</sup> - 11<sup>th</sup> February, 2017.**
- **Convended** a capacity building workshop on e-content creation in Mathematics on **28.10.2016** held at the Institute of Life Long Learning, University of Delhi.
- Participated and **Member, Organising Team** of **9<sup>th</sup> International Geographical Union (IGU) Conference Land Use Change, Climate Extremes and Disaster Risk Reduction**, organized by Shaheed Bhagat Singh College, University of Delhi, Delhi during **18<sup>th</sup> -20<sup>th</sup> March 2016..**
- **Convended** a capacity building workshop on e-content creation in Mathematics on **29.01.2016** held at the Institute of Life Long Learning, University of Delhi.
- **Convener** of Accomodation Committee in **International Workshop on Wavelets, Frames and Applications II** held at Kirori Mal College, University of Delhi, **24.12.2014 – 30.12.2014.**

#### Awards and Distinctions

#### Association with Professional Bodies

Life time member of **Indian Society for History of Mathematics**

#### Other Activities

- Delivered an **Invited talk** titled “**Scalability Of Generalized Frames For Operators**” in the **2nd International Conference on Recent Advances in Applied Mathematics (RAAM 2024)** at the Department of Mathematical Sciences, Indian Institute of Technology (BHU) Varanasi, during **July 03-05, 2024.**
- Delivered an **Invited talk** titled “**Controlled g-frames and their g-duals**” in the **INTERNATIONAL CONFERENCE: RECENT TRENDS IN MATHEMATICS (ICM-SQU2024)** organized by Sultan Qaboos University, Muscat, OMAN during March 04-06, 2024.
- Participated in **NEP 2020 Orientation & Sensitization Programme** under **Malaviya Mission Teacher Training Programme (MM-TTP)** of University Grants Commission

(UGC) Organized by Centre for Professional Development in Higher Education (UGC-MMTTC), University of Delhi from February 20– 29, 2024.

- Delivered an **Invited talk** titled “**On K-g-frames and 2K-g-frames in Hilbert spaces**” in the **4<sup>th</sup> Online Seminar on Mathematical Analysis and Generalized Integration** organized by Universidad Autonoma MetroPolitana, Mexico during February 8-10, 2024.
- Contributed as **Resource person** in two days **National Workshop on Model framework of Mathematics and Statistics Curriculum: NEP Perspectives** organized by Galgotia University in association with Vidya Bharti Uchcha Shiksha Sansthan during **February 2-3, 2024**.
- Delivered an **Invited talk** titled “**On generalized duals of Controlled g-frames**” in the **International Conference on Analysis and its Applications (ICAA-2024)** organized by Jamia Milia Islamia, New Delhi, INDIA during January 19-21, 2024.
- Participated in One week (online) **International Faculty Development Programme on Advanced Linear Algebra** organized by Miranda House College, University of Delhi in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi during **27<sup>th</sup> September-1<sup>st</sup> October, 2021**.
- Chaired a Technical session in **International Virtual Conference on Recent Applications of Mathematical Sciences** organized by Department of Mathematics and Statistics, University College of Science, Mohanlal Sukhadia University, Udaipur, Rajasthan **during 15-16 July, 2021**.
- Participated in One week (online) **Interdisciplinary Faculty Development Programme on Applications of Mathematics in Business and Social Sciences** organized by Department of Mathematics and IQAC, Miranda House College, University of Delhi in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi during **18<sup>th</sup> -24<sup>th</sup> March, 2021**.
- Participated in the Two week Faculty Development Programme on **ICT Based New Paradigms of e-Teaching and e-Learning: Digital Pedagogy** organized by the Department of Computer Science, Mata Sundri College for Women, University of Delhi and the Teaching Learning Centre, Ramanujan College, University of Delhi from **15-30 September, 2020**.
- **Centre Co-ordinator, Madhava Mathematics Competition (MMC)** in the college for the exam held in the year **2019**.
- Participated in the Two week Faculty Development Programme on **Teaching and Learning in Digital Era** organized by the Teaching Learning Centre, Ramanujan College, University of Delhi and Internal Quality Assurance Cell (IQAC), Shaheed Bhagat Singh College, University of Delhi from **15-27 December, 2018**.
- Participated and chaired a session at the **International Workshop on Wavelets, Frames & Applications-III** held at Kirori Mal College, University of Delhi during **14-20, December, 2017**.

- Participated in three-week Refresher Course in **E-Learning and Digital Learning (ID)** from **5<sup>th</sup> September-25<sup>th</sup> September, 2017** organised by Centre for Professional Development in Higher Education (CPDHE), University of Delhi, Delhi.
- Convener of **International Conference on Applicable Analysis (ICAA 2017)** organized by Department of Mathematics, Shaheed Bhagat Singh College, University of Delhi at Satyakam Bhawan, New Social Sciences Block, North Campus during **08<sup>th</sup> - 11<sup>th</sup> February, 2017**.
- Delivered an **invited talk** in connection with **In-service course of PGT (Maths), 2<sup>nd</sup> spell, 2016-17 on 31.12.2016** at **Kendriya Vidyalaya No. 1, Delhi Cantt, New Delhi-110010**.
- **Convened** a capacity building workshop on e-content creation in Mathematics on **28.10.2016** held at the Institute of Life Long Learning, University of Delhi.
- Participated and **Member, Organising Team** of **9<sup>th</sup> International Geographical Union (IGU) Conference Land Use Change, Climate Extremes and Disaster Risk Reduction**, organized by Shaheed Bhagat Singh College, University of Delhi, Delhi during **18<sup>th</sup> -20<sup>th</sup> March 2016**.
- Participated and delivered an **invited talk** entitled "Fusion Frames and Related Concepts in Banach Spaces" and **chaired a session** in **NATIONAL WORKSHOP ON ANALYSIS, DIFFERENTIAL EQUATIONS AND APPLICATIONS** held at Mohan Lal Sukhadia University, Udaipur during **25<sup>th</sup> – 27<sup>th</sup> February, 2016**.
- **Convened** a capacity building workshop on e-content creation in Mathematics on **29.01.2016** held at the Institute of Life Long Learning, University of Delhi.
- Convener of Accomodation Committee in **International Workshop on Wavelets, Frames and Applications II** held at Kirori Mal College, University of Delhi, **24.12.2014 – 30.12.2014**.
- Participated and delivered an **invited talk** entitled "*On Fusion Frames in Banach Spaces II*" and **chaired a session** in **International Workshop on Wavelets, Frames and Applications II** held at Kirori Mal College, University of Delhi, **24.12.2014 – 30.12.2014**.
- Participated in **International Seminar on History of Mathematics** held at Ramjas College during **19-20 November, 2013**.
- Participated in the **105<sup>th</sup> four-week Orientation Programme** organized by the UGC-ASC, Jamia Millia Islamia, New Delhi from **15<sup>th</sup> July – 14<sup>th</sup> August, 2013**.
- Presented a poster entitled "Fusion Banach Frames satisfying property  $B$ " in **Almora Mathematical Surveys** held at Kasar Jungle Resort, Kumaun University, Almora during 03-06 October 2012.
- Convener of Transport Committee in **International Workshop on Wavelets, Frames and Applications** held at Kirori Mal College, University of Delhi, **15.12.2011 – 21.12.2011**.

- Participated and presented a paper entitled “*AD-Frames satisfying property B*” in **International Workshop on Wavelets, Frames and Applications** held at Kirori Mal College, University of Delhi, 15.12.2011 – 21.12.2011.
- Participated and presented a paper entitled “*A Note on AD-Frames in Banach Spaces*” in **Third National Conference on Mathematical Techniques: Emerging Paradigms for Electronics and IT Industries (MATEIT 2010)** held during 30-31 January, 2010 in New Convention Centre, University of Delhi.
- Participated in Pre – ICM **International Convention on Mathematics** 18<sup>th</sup> – 20<sup>th</sup> December, 2008 held at University of Delhi.
- Participated in **International Conference on Operator Theory and Related Areas** 9<sup>th</sup> – 12<sup>th</sup> January, 2008 held at University of Delhi.
- Participated in **Instructional Workshop on Wavelet Analysis** 22<sup>nd</sup> Oct. – 5<sup>th</sup> Nov. 2007 held at B.H.U.
- Participated in **National Workshop on Analysis** 27-28 September, 2007 held at University of Delhi.
- Participated in **Annual Foundation School – II** 1<sup>st</sup> – 28<sup>th</sup> June, 2006 held at Bhaskaracharya Pratisthana, Pune.