

SHRI MATA VAISHNO DEVI UNIVERSITY

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Department of Mathematics

Curriculum Vitae

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a) **Teaching experience at SMVDU:** 11 years

(10) **Research Experience**: 18 years.

(11) a) **Ph.D. Thesis Title**: Substitution Operators

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c) **Year of Award**: 1999

List of Publications:

- 1. *Raj, Kuldip and Renu Anand*, Double difference spaces of almost null and almost convergent sequences for Orlicz function, **J. Comput. Anal. Appl., 24** (2018), 773-783.
- 2. *M. Mursaleen and Raj, Kuldip*, Sliding window convergence and lacunary statistical convergence for measureable functions via modulus function, **Bol. Soc. Paran. Mat.**, **36** (2018), 161-174.
- 3. *Raj, Kuldip, Anu Choudhary and Charu Sharma*, Almost strongly Orlicz double sequence spaces of regular matrices and their applications to statistical convergence, **Asian-Eur. J. Math.**, doi.org/10.1142/S1793557118500730 (2017).
- 4. *Raj, Kuldip and Renu Anand*, On Statistical Convergence in generalized Lacunary sequence spaces, Bul. Acad. Stiinte Repub. Mold. Mat., **84** (2017), (preprit).
- 5. *Raj, Kuldip and Charu Sharma*, Ideal convergent generalized difference sequence spaces of infinite matrix and Orlicz function, *Italian J. Pure Appl.*, 41 (preprint).
- 6. *Raj, Kuldip, A. Esi and S. Jamwal*, Orlicz–Quasi–Cauchy Double Sequence Spaces for *RH*–Regular Matrix, **J. Class. Anal., 10** (2017), 67-76.
- 7. *Raj, Kuldip and Seema Jamwal*, On Non-Absolute Type Spaces and their kothe-Toeplitz Duals, **Trans. A. Razmadze Math. Inst.**, 171 (2017), 212-220.
- 8. S. A. Mohiuddine and Raj, Kuldip, Vector valued Orlicz-Lorentz sequence spaces and their operator ideals, J. Nonlinear Sci. Appl., 10 (2017), 338–353.
- Raj, Kuldip and Charu Sharma, Applications of infinite matrices in non-Newtonian calculus for paranormed spaces and their toeplitz duals, Facta Universitatis, Ser. Math. Inform., 32 (2017), (preprint).
- 10. Sunil K. Sharma, **Raj**, **Kuldip** and Ajay K. Sharma, Some sequence spaces of invariant means and lacunary defined by a Musielak-Orlicz function over n-normed spaces, **Tbilisi Math. J.**, (preprint).
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- 12. *Raj, Kuldip*, *Azimhan A and Ashirbayev K*, Some generalized difference sequence spaces of ideal convergence and Orlicz functions, **J. Comput. Anal. Appl.**, **22** (2017), 52-63.

- 13. *Raj, Kuldip and Suruchi Pandoh*, Some generalized lacunary double Zweier Convergent Sequence spaces, Comment. Math., 56 (2016), 185–207.
- 14. *Raj, Kuldip*, Charu Sharma and Suruchi Pandoh, On some generalized spaces of sequences via Riesz mean and Musielak-Orlicz function, **Southeast Asian Bulletin Math.** (accepted).
- 15. M. Mursaleen and Raj, Kuldip, Some vector valued sequence spaces of Musielak Orlicz function and their operator ideals, Math. Slovaca (accepted).
- 16. *Raj, Kuldip*, *Charu Sharma and Suruchi Pandoh*, Multiplication operators on Cesaro-Orlicz sequence spaces, **Fasc. Math.**, 57 (2016), 137-145.
- 17. *Raj, Kuldip and Suruchi Pandoh*, On some generalized spaces of interval numbers with an infinite matrix and Musielak-Orlicz function, **Khayyam J. Math.**, 2 (2016), 25-38
- 18. *Raj, Kuldip and Charu Sharma*, Applications of strongly convergent sequences to Fourier series by means of modulus functions, **Acta Math. Hungar.**, **150** (2016), 396-411.
- 19. *Raj, Kuldip and Renu Anand*, On some new difference sequence spaces derived by using Riesz mean and a Musielak-Orlicz function, **Konuralp J. Math.**, 4 (2016), 56-69.
- 20. *Raj, Kuldip and* Charu Sharma, On Lacunary statistical Quasi-Cauchy sequences in n-normed spaces, **J. Math. Anal.**, 7(2016), 64-73.
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- **36.** *M. Mursaleen*, *Raj*, *Kuldip* and *Sunil K. Sharma*, Some spaces of difference sequences and Lacunary statistical convergence in n- normed spaces defined by a sequence of Orlicz functions, **Miskolc Math. Notes**, 16 (2015), 283–304.
- **37.** *Raj, Kuldip and Suruchi Pandoh*, Some vector valued statistical convergent sequence spaces, **Malaya J. Mat.**, 3(2015), 161-167.
- **38.** *Raj, Kuldip*, *Suruchi Pandoh and Seema Jamwal*, Fibonacci difference sequence spaces defined by a sequence of modulus functions, **Le Matematiche**, **70**(2015), **137-156**.

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- 147. **Raj, Kuldip**, Komal, B.S. and Khosla, Vinay; Composition operators on sequence spaces of entire functions, **Int. Electronics J. Pure. Appl. Math.**, 1 (2010), 469-474.
- 148. **Raj, Kuldip**, Komal, B. S. and Khosla, Vinay, On Operators of Weighted Composition on Orlicz Sequence Spaces, **Int. J. Contemp. Math. Sciences**, 5 (2010), 1961-1968.
- 149. **Raj, Kuldip**, Bhougal, Sandeep and Sharma, Sunil K.; Some Applications of Integro—Substitution Operators in Integral Equations, **Int. J. Math. Analysis**, 4(2010), 1857-1864.
- 150. **Raj, Kuldip**, Tiwari, Sadhana and Sharma, Sunil K., On operators of Weighted Composition Induced by Operator Valued Mappings Acting Between L^p Spaces, **Int. J. Comput. Sci. Math.**, 2 (2010), 39-44.
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- 154. Raj, Kuldip, Weighted substitution operators between \$L^p\$-spaces, Int. J. Math. Anal., 2 (2008), 845--852.

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- 157. Komal, B. S. and **Raj, Kuldip**, On operators of weighted substitution on the generalized spaces of entire functions. II. **Far East J. Math. Sci. 1998,** Special Volume, Part I, 117--123.
- 158. Komal, B. S., **Raj, Kuldip** and Gupta, Sunil On operators of weighted substitution on the generalized spaces of entire functions, **Math Today**, 15 (1997), 3-10.

1. List of Papers Presented in Conference:

- 1. Participated and presented a paper entitled "Essential norm of weighted composition operators" in National Conference on "Topology, Analysis and their Applications" held on March 7-8, 2017 organized by Department of Mathematics, SMVDU, Katra in association with Jammu Mathematical Society, Jammu.
- 2. Organized and attended the National Science Day-2017under the theme "Science and Technology for Specially Abled Persons" held at Shri Mata Vaishno Devi University, Katra (J&K) on 28th Feb, 2017.
- 3. Participated and presented a paper entitled "On Strongly convergent sequence spaces of Modulus functions and infinite matrix over n-normed spaces" at 6th International Conference on Mathematics and Information Sciences Feb. 09-11, 2017, Egypt.
- 4. Chaired a session in the National Seminar on "Demonetization of Currency and India Economy" held on December 28th, 2016 organized by Department of Economics, SMVD University, Katra, Jammu.
- 5. Participated and presented a paper entitled "On the Classical Paranormed sequence spaces" in National Seminar on "Demonetization of Currency and India Economy" held on December 28th, 2016 organized by Department of Economics, SMVD University, Katra, Jammu.

- 6. Participated and presented a paper entitled "Almost Lacunary-Orlicz convergent sequence spaces" in National Seminar on Recent Developments in Complex Analysis, Operator Theory and related areas held on October 20-22, 2016 organized by Department of Mathematics University of Jammu, Jammu.
- 7. Participated in one day Workshop on "Patent Drafting and Filling" in association with Technology Information organized by Department of Biotechnology (DoBT), SMVD University, Katra, Jammu on 20th October, 2016.
- 8. Participated and presented a paper entitled "Certain Classes of Multiplier Sequences of Cesaro Type" in National Conferences on Topological Algebra and Analysis, held on Feb. 18-19th, 2016 organized by Department of Mathematics G.G.M. Science College, Jammu.
- 9. Participated and presented a paper entitled "Some double sequence spaces of Fuzzy numbers defined by a sequence of Orlicz function" in 1st International Conference on Research and Innovations in Science, Engineering & Technology organized by Yogananda College of Engineering & Technology on 20-21 November, 2015.
- 10. Participated and presented a paper entitled "On some new classes of generalized sequence spaces" in the National Conference on Recent trends in Mathematical Sciences organized by School of Mathematics, Shri Mata Vaishno Devi University on 8-9 October, 2015.
- 11. Participated in two days National Workshop on E-content Development and Management conducted by Govt. College for Women Gandhi Nagar, on 23rd to 24th July, 2015 at Jammu.
- 12. Participated and presented a paper entitled "Some sequence spaces of Fuzzy numbers for Orlicz function and Partial Metric" in the 24th Annual conference of the Jammu Mathematical Society and a National Seminar on Topological Algebraic Analysis organized by Department of Mathematics, University of Jammu held on14-16 May, 2015.
- 13. Participated and presented a paper entitled "Some Generalized I-convergent sequence spaces of Fuzzy numbers" in 2nd National Conferences in Mathematics on Recent trends in Algebra and Analysis, held on March 25-26th, 2015 organized by Department of Mathematics G.G.M. Science College, Jammu.
- 14. Participated in 10th JK Science Congress from 14th to 16th March, 2015 at University of Jammu and presented a paper title`` On double sequence spaces''.

- 15. Participated and presented a paper entitled "Some Paranormed double difference sequence spaces for Orlicz functions and Bounded-Regular Matrics" in two days National Symposium on Interdisciplinary Sciences, held on Feb. 27-28, 2015 organized by G.G.M. Science College, Jammu.
- 16. Participated and presented a paper entitled "Applications of Lacunary Sequences to n-norm" at National Conference in Mathematics on Analysis and its Applications, 27th March, 2014, Organized by Department of Mathematics, G.G.M. Science College, Jammu.
- 17. Participated and presented a paper entitled "Multiplication Operators on Cesaro function spaces" at International Conference on Recent trends in Algebra and Analysis with Applications, Department of Mathematics, Aligarh Muslim University, Aligarh, India, Feb, 12-14, 2014.
- 18. Participated and presented a paper on "Perspective on the status of Mathematics in J&K" in Mathematical Festival held on 13th Dec., 2013 organized by Jammu & Kashmir Institute of Mathematical Sciences, Higher Education Department, J&K Government at Jammu.
- 19. Participated, contribute as Session Chair on Soft Computing, Fuzzy Logic and ANN and also presented a paper entitled"On Some Sequence Spaces" in International Conference on Machine Intelligence and research Advancement (ICMIRA-2013) 21-23, December, 2013, SMVDU Katra, Jammu, India.
- 20. Participated, contribute as Session Chair on Mathematical Modelling & Simulation, Software Engineering & Testing in International Conference on Machine Intelligence and research Advancement (ICMIRA-2013) 21-23, December, 2013, SMVDU Katra, Jammu, India.
- 21. Participated and presented a paper entitled "Fuzzy Sequence Spaces" in 23rd Annual conference of the Jammu Mathematical Society and a national seminar on recent trends in analysis and topology Feb, 26-28th, 2013 Department of Mathematics at University of Jammu.

- 22. Participated in "One day acquaintance programme on Accelerator based Research" held at School of Physics, Shri Mata Vaishno Devi University on June 14, 2012.
- 23. Participated in National Conference on Algebra, Analysis and their Applications Organized by P. G. Department of Mathematics, Govt. M.A.M. College, Jammu from 18th to 19th August, 2012 and presented a research paper on "Composition Operators on Musielak –Orlicz Spaces."
- 24. Participated in First National Conference onm Machine Imtelligence Research and Advancement (NCMIRA, 12) on 21-23 Dec, 2012 and presented a paper title "Some Multiplier generalized difference sequence spaces" organisede by School of Electronics & Communication Engineering, SMVD University.
- 25. Participate on a two days ISTE WORKSHOP on AKASH FOR EDUCATION conducted by Indian Institute of Technology Bombay on 10th to 11th November, 2012 at SMVDU.
- 26. Participated in 22nd Annual conference of the Jammu Mathematical Society and a national seminar on recent developments in complex analysis and related areas, Feb, 24-25, 2012, Department of Mathematics at University of Jammu.
- 27. Participated in 7th JK Science Congress from 13th to 15th October 2011 at University of Jammu and presented a paper title`` Double difference sequence spaces defined by Musielak-Orliczfunction''.
- 28. Participated in 1st International Conference on Mathematical Sciences and Applications which was held on 18th December 2011 at India International Centre, New Delhi and presented a paper title `` Strongly summable sequence spaces defined by a sequence of Orlicz function".
- 29. Participated and Presented a paper title "Difference Sequence spaces defined by Musielak- Orlicz function over n-normed spaces" in 21st Annual conference of the Jammu Mathematical Society and a national seminar on recent developments in complex analysis and related areas, Feb, 25-27, 2011, Department of Mathematics at University of Jammu.
- 30. Participated and Presented a paper title "Weighted Composition Operator between Orlicz function spaces" in 5th JK Science Congress from 8th to 10th February 2010 at University of Jammu.

- 31. Integral operators between Lp –Spaces in 20th Annual Conference of Jammu Mathematical Society Department of Mathematics, University of Jammu from 28 th of Feb to 2nd March, 2010.
- 32. On operators of Weighted Composition Induced by Operator Valued Mappings Acting Between L^p Spaces in ICM -2010 Satellite Conference on Functional Analysis and Operator theory at Indian Statistical Institute Banglore from 8th of August to 11th of August, 2010.
- 33. Difference sequence spaces in n-normed spaces defined by Musielak-Orlicz function in International Conference on development and applications of statistics in emerging areas of science and technology along with XXX annual convention of Indian society for probability and statistics, December 8-10, 2010, Department of Statistics, University of Jammu.
- 34. Presented a paper in The 19th Annual Conference of Jammu Mathematical Society Department of Mathematics, University of Jammu from 27-28 Feb, 2009.
- 35. On operators of weighted substitution on the generalized spaces of entire functions in 18th annual Conference of Jammu Mathematical society University of Jammu from 1st to 3rd March 2008.
- 36. "Multiplication Operators induced by Operator valued maps" in the International Congress and 8th Conference of Indian Society of Industrial & Applied Mathematics (ISIAM) on certain Emerging areas in Applicable Mathematics and 17th Annual Conference of Jammu Mathematical Society Department of Mathematics, University of Jammu from 31st March to 3rd April,2007.

<u>General Orientation Course</u>: Participated in the UGC-sponsored general orientation course from 07-12-2009 to 04-01-2010, organized by UGC Academic Staff College at University of Jammu.

Referesher Course:

1. Participated in one week AICTE recognized Short term course on "Optimization using Matlab through ICT" from 24-10-2016 to 28-10-2016 organised by Mechanical Engineering Department at Shri Mata Vaishno Devi University, Katra (J&K).

- 2. Participated in the three weeks UGC-sponsored Refresher Course in Mathematical Sciences from 8-12-2015 to 29-12-2015 organised by UGC Human Resource Development Centre at University of Jammu, Jammu.
- 3. Participation in AICTE sponsored **Faculty Development Programme** on "Applications of Econometrics and time Series Techniques in Business" from 20th May to 2nd June, 2013 at College of Management, Shri Mata Vaishno Devi University, Katra, J&K.
- 4. Participated in the two weeks AICTE approved **Staff Development Program** On "Introduction to MATLAB and Matrox Imaging Library (MIL) with Ephasis on hands on Practice (WMMIL' 11), (DEC 16-29, 2011)" organized by School of Electronics & Communication Engineering, SMVDU, Katra, Jammu from 16th to 29th Dec 2011.

Conferences Attended:

National Conferences: 20
 International Conferences: 8

3. PhD Guidance/Supervision:

S.No.	Name of the Scholar	Date of	University	Date of Award of
		Admission		Degree/ Submission of
				thesis
1.	Sunil Kumar Sharma	01-01- 2010	SMVDU	14-04-2013(Awarded)
2.	Seema Jamwal	30-09-2009	SMVDU	16-02-2016(Awarded)
3.	Suruchi Pandoh	11-02-2013	SMVDU	05-06-2017 (Awarded)
4.	Renu Anand	02-09-2014	SMVDU	Continued
5.	Charu Sharma	13-08-2015	SMVDU	Continued
6.	Manisha Devi	17- 08- 2015	SMVDU	Continued
7.	Anu Choudhary	11-08-2016	SMVDU	Continued

4. Book Published: 01

Title: Substitution operators on some function spaces.

Publisher: Lambert Academic Publishing, Germany, 2010.

ISBN-13: 978-3838398433, No. of pages: 96.

5. **Conferences organized**: 02

- (i) A national conference on Algebra, Analysis and Applications which was held on 15th 16th March, 2013 at SMVDU and got funding from CSIR and SMVDU.
- (ii) A National Conference on Topology, Analysis, Algebra and their Applications which was held on 7^{th} - 8^{th} March, 2017 at SMVDU and got funding from UGC and SMVDU.

6. Minor projects Guided (M.Sc. students):

S. No.	Name of the Student	Entry no.	Session	Title	Status
1	Anita & Rajni Dogra	2007SMM27 2007SMM29	2007-2009	Linear Transformations	Completed
2	Preeti Sharma	2007SMM03	2007-2009	Continuous Functions on Metric Spaces	Completed
3	Nayan Basgotra & Kamia Sharma	2008SMM02 2008SMM07	2008-2010	A Brief Survey on L ^p -Spaces	Completed
4	Pankaj Gupta & Ganesh Paul	2009SMM06 2009SMM09	2009-2011	A Brief Survey on Orlicz Function Spaces	Completed
5	Ganshyam Dogra & Sheetal Sharma	2010SMM03 2010SMM05	2010-2012	General Measure and Integration	Completed
6	Nitish Sharma & Vaishali Sharma	2011SMM07 2011SMM17	2011-2013	Summability of Sequences	Completed
7	Kamakshi Sharma & DivyaJyoti	2012SMM20 2012SMM03	2012-2014	Modular Spaces	Completed
8	Shubham &	2013SMM04	2013-2015	An Introduction to Orlicz Spaces	Completed

	Monika Bajal	2013SMM17			
9	Pankaj Sharma & Preeti Kesar	14MMM012 14MMM021	2014-2016	A Brief Study on Orlicz Spaces and their Composition Operators	Completed
10	Nitin Mangotra & Neha Devi	14MMM004 14MMM027	2014-2016	A Study on n- Functions	Completed
11	Ruchi Bhatyal & Jyoti Rani	15MMM023 15MMM030	2015-2017	On Uniform Convergence	Completed
12	Swati Jasrotia & Diksha Mehra	15MMM011 15MMM026	2015-2017	A Connection between Orlicz functions and Young functions	Completed

7. Administrative Contribution to the University:

(a) Holding an Administrative post

- 1. Warden Nilgiri hostel Aug, 2014-Aug, 2016.
- 2. Member DPS School management committee (University side) w.e.f. Aug, 2010 to till date.

(b) Membership of Committees, etc.

Member Board of Studies

Member Department Research Committee

Member Academic Affairs Committee

Member Admission Committee (M.Sc. Mathematics)

Incharge Examination for M.Sc. and B. Tech. (Mathematics)

(c) Organisers of events

Incharge Seminar of Ph.D. scholars of Department of Mathematics.

(d) Members of Shortlisting/ Selection Committee

Member of Shortlisting Committee (for short listing the applicants of Asstt. Prof. in Mathematics).

FOREIGN VISIT: I visited the African country Egypt, Cairo to attend the International Conference organized by Zewail City of Science and Technology, Feb. 9-11, 2017.

INSTITUTE VISITED IN INDIA:

- 1. Tata Institute of Fundamental Research, Mumbai.
- 2. Aligarh Muslim University, Aligarh.
- 3. University of Delhi, Delhi.
- 4. Indian Institute of Technology, Delhi.
- 5. Vanaras Hindu University, Vanaras.
- 6. Indian Statistical Institute, Bangalore.
- 7. Indian Institute of Sciences, Bangalore.
- 8. Punjab University, Chandigarh.