

Curriculum Vitae

Dr. Surender Singh

Associate Professor

School of Mathematics

Shri Mata Vaishno Devi University

Kakryal, Katra, Jammu & Kashmir-182320



Career Summary:

Dr. Surender Singh is an Associate Professor in the School of Mathematics, Shri Mata Vaishno Devi University, Katra. He has earned his Master degree in Mathematics from the Department of Mathematics, Kurukshetra University, Kurukshetra in 1999. He has also qualified CSIR (NET) in 2002, and received his PhD (Mathematics) at Deen Bandhu Chhotu Ram University of Science & Technology, Murthal (Sonipat) in 2015. He has more than twenty years of teaching experience. His main research interest is Mathematical Information Theory, Fuzzy Information Theory and applications. He has published more than 50 research papers in reputed international journals and conferences. He has participated in many international and national conferences. He has also organized several conferences and FDP at School of Mathematics, SMVDU. He is also a life member of professional bodies like Indian Mathematical Society, Jammu Mathematical Society, Indian Society of Industrial and Applied Mathematics, Indian Society of Technical Education, India, Indian Society of Information Theory and Applications, IAENG, RGMIA. Dr. Singh also serves as a reviewer of several international Journals of repute. Recently, Dr. Singh has been included in the Prestigious list of **top 2% Scientists of the World** for the year 2023-24, as per the list released by Elsevier and Standford University.

Educational Qualification

Qualifications acquired	University / Institution / College	Year of Passing
B.Sc.(Phy., Chem., Maths.)	Maharshi Dayanand University, Rohtak	1996
M.Sc. (Mathematics)	Kurukshetra University, Kurukshetra	1999
Ph.D.(Mathematics)	Deenbandhu Chhotu Ram University of Science & Technology, Murthal (Sonepat), Haryana Title of Thesis: Some Generalized Information and Divergence Measures and their Applications Supervisors: Prof. P. K. Bhatia and Dr. Vinod Kumar	2015

Professional Qualification:

Qualified National Educational Test (NET) conducted by CSIR-UGC in the year 2002.

Experience:

Teaching: 20 years

Research: 15 years

Professional Affiliation:

S. No.	Designation	Organization	Duration
1	Lecturer	S.D. (P.G.) College, Panipat	19th July 2000 to 15th March 2002
2.	Lecturer	I.B. (P.G.) College, Panipat	15th July 2002 to 22 March 2003
3.	Lecturer	S.D. (P.G.) College, Panipat	18 July 2006 to March 2007
4.	Assistant Professor	S.D Institute of Tech. and Management, Israna Panipat	25th June 2007 to 29th November 2011
5.	Assistant Professor	Shri Mata Vaishno Devi University, Katra	1st December 2011 to 13 th June 2022
6.	Associate Professor	Shri Mata Vaishno Devi University, Katra	14th June 2022 to Till Date

Courses Taught:

P.G. LEVEL (M.Sc./M.Tech.):

- Abstract Algebra
- Discrete Mathematics
- Linear Algebra
- Real Analysis
- Differential Equations
- Calculus of Variations and Mechanics
- Modern Applied Algebra

U.G. LEVEL (B.Sc./B.Tech.)

- Real Analysis
- Algebra
- Vector Calculus and Coordinate Geometry
- Discrete Structure
- Combinatorial Mathematics
- Graph Theory
- Numerical Methods
- Engineering Mathematics-I
- Engineering Mathematics-II
- Fuzzy Logic with Applications

Areas of Interest / Specialization:

Fuzzy Information Theory and Applications, Decision-making, Pattern classification

Research Profile

Research Publications:

Published Journal Papers (SCI/SCIE/Scopus Listed Journals)

1. On a new Csiszar's f-divergence Measure, CYBERNETICS AND INFORMATION TECHNOLOGIES, 13 , 43-57,2013
(SCOPUS INDEXED)
2. On some properties of Tsallis Entropy on Majorization Lattice, ACTA MATHEMATICA ACADEMIAE PEADAGOGICAE NYIREGYHAZIENSIS, 31 , 331-340, 2015
(SCOPUS INDEXED)
3. On a Knowledge Measure and an Unorthodox Accuracy Measure of an Intuitionistic Fuzzy Set (s) With their Applications, INTERNATIONAL JOURNAL OF COMPUTATIONAL INTELLIGENCE SYSTEMS, 11, 1338-1356, 2018
(SCIE INDEXED, IMPACT FACTOR: 2.5)
4. Generalized Correlation Coefficients of hesitant Fuzzy sets and the Hesitant Fuzzy soft Sets with Application in Group Decision-making, JOURNAL OF INTELLIGENT AND FUZZY SYSTEMS, 35, 3821-3833,2018 **(SCIE INDEXED, IMPACT FACTOR: 1.7)**
5. On some Generalized Correlation Coefficients Of the fuzzy Sets and Fuzzy soft Sets with Application in Cleanliness Ranking of Public health Centres, JOURNAL OF INTELLIGENT AND FUZZY SYSTEMS, 36, 3671-3683, 2019
(SCIE INDEXED, IMPACT FACTOR: 1.7)

6. On Generalized Correlation Coefficients Of The Hesitant Fuzzy Sets With Their Application To Clustering Analysis, COMPUTATIONAL AND APPLIED MATHEMATICS, 38 , 11, 1-26, 2019 (**SCIE INDEXED, IMPACT FACTOR: 2.5**)
7. Dual Concepts in Fuzzy theory: Entropy and Knowledge Measure INTERNATIONAL JOURNAL OF INTELLIGENT SYSTEMS, 34 , 1034-1059, 2019 (**SCIE INDEXED, IMPACT FACTOR: 5.0**)
8. On Generalized Fuzzy Entropy and Fuzzy Divergence Measure with Applications, INTERNATIONAL JOURNAL OF FUZZY SYSTEM APPLICATIONS,8,47-69, 2019 (**SCOPUS**)
9. Some new correlation coefficients of picture fuzzy sets with applications, NEURAL COMPUTING AND APPLICATIONS, 32, 15609-15625, 2020 (**SCIE INDEXED, IMPACT FACTOR: 4.5**)
10. Generalized Correlation Coefficients of Intuitionistic Fuzzy Sets with Application to MAGDM and Clustering Analysis, INTERNATIONAL JOURNAL OF FUZZY SYSTEMS, 22, 1582-1595,2020 (**SCIE INDEXED, IMPACT FACTOR: 3.6**)
11. Knowledge measure of hesitant fuzzy set and its application in multi-attribute decision-making, COMPUTATIONAL AND APPLIED MATHEMATICS, 39 , 86, 1-26,2020 (**SCIE INDEXED, IMPACT FACTOR: 2.5**)
12. .On generalized knowledge measure and generalized accuracy measure with applications to MADM and pattern recognition, COMPUTATIONAL AND APPLIED MATHEMATICS, 39 , 231, 1-46, 2020 (**SCIE INDEXED, IMPACT FACTOR: 2.5**)
13. On Some Knowledge Measures of Intuitionistic Fuzzy Sets of Type Two with Application to MCDM, CYBERNETICS AND INFORMATION TECHNOLOGIES, 20, 3-20,2020 (**SCOPUS**)
14. On some correlation coefficients in Pythagorean fuzzy environment with applications, INTERNATIONAL JOURNAL OF INTELLIGENT SYSTEMS,35 , 682-717,2020 (**SCIE INDEXED, IMPACT FACTOR: 5.0**)
15. On a weighted fuzzy knowledge measure with its application to multi-attribute decision-making, SONGKLANAKARIN JOURNAL OF SCIENCE AND TECHNOLOGY, 42, 1377-1388,2020 (**SCOPUS**)

16. A picture fuzzy similarity measure based on direct operations and novel multi-attribute decision-making method, NEURAL COMPUTING AND APPLICATIONS, 33,9199-9219, 2021 (**SCIE INDEXED, IMPACT FACTOR: 4.5**)
17. On a generalized entropy and dissimilarity measure in intuitionistic fuzzy environment with applications, SOFT COMPUTING, 25, 7493-7514, 1432-7643 , 2021 (**SCIE INDEXED, IMPACT FACTOR: 3.1**)
18. An innovative picture fuzzy distance measure and novel multi-attribute decision-making method, COMPLEX INTELLIGENT SYSTEMS, 7, 781-805,2021 (**SCIE INDEXED, IMPACT FACTOR: 5.0**)
19. Applications of picture fuzzy similarity measures in pattern recognition, clustering, and MADM, EXPERT SYSTEMS WITH APPLICATIONS, 168, 1-17,0957-4174, 2021 (**SCIE INDEXED, IMPACT FACTOR: 7.5**)
20. On generalized correlation coefficients of picture fuzzy sets with their applications, INTERNATIONAL JOURNAL OF FUZZY SYSTEM APPLICATIONS, 10,59-81,2021 (**SCOPUS**)
21. Applications of a picture fuzzy correlation coefficient in pattern analysis and decision-making, GRANULAR COMPUTING, 7, 353-367, 2364-4974, 2022 (**SCOPUS**)
22. Some novel q-rung orthopair fuzzy correlation coefficients based on the statistical viewpoint with their applications, JOURNAL OF AMBIENT INTELLIGENCE AND HUMANIZED COMPUTING, 13, 2227-2252, 2022 (**SCOPUS**)
23. Generalized hesitant fuzzy knowledge measure with its application to multi-criteria decision-making, GRANULAR COMPUTING, 7, 239-252, 2022 (**SCOPUS**)
24. Two-parametric generalized fuzzy knowledge measure and accuracy measure with applications, INTERNATIONAL JOURNAL OF INTELLIGENT SYSTEMS, 37, 3836-3880, 2022 (**SCIE INDEXED, IMPACT FACTOR: 5.0**)
25. On a new picture fuzzy correlation coefficient with its applications to pattern recognition and identification of an investment sector, COMPUTATIONAL AND APPLIED MATHEMATICS, 41 , 8, 1-35, 2022 (**SCIE INDEXED, IMPACT FACTOR: 2.5**)
26. Distance-Based Knowledge Measure of Hesitant Fuzzy Linguistic Term Set With Its Application in Multi-Criteria Decision Making, INTERNATIONAL JOURNAL OF FUZZY SYSTEMS AND APPLICATIONS, 11, 1-20, 2022 (**SCOPUS**)

27. Knowledge and accuracy measure based on dual-hesitant fuzzy sets with application to pattern recognition and site selection for solar power plant, GRANULAR COMPUTING, 8, 157-170, 2364-4974, 2022 (**SCOPUS**)
28. A Complementary Dual of Single-Valued Neutrosophic Entropy with Application to MAGDM, MATHEMATICS, 10 , 1-19, 2022
(**SCIE INDEXED, IMPACT FACTOR: 2.3**)
29. On some measures of similarity and entropy for Pythagorean fuzzy sets with their applications, COMPUTATIONAL AND APPLIED MATHEMATICS, 41, 420, 1-30, 2022 (**SCIE INDEXED, IMPACT FACTOR: 2.5**)
30. Picture Fuzzy Knowledge Measure with Application to MADM, International Journal of Mathematical, Engineering and Management Sciences, 8 , 650-671, 2023
(**ESCI & SCOPUS INDEXED, IMPACT FACTOR: 1.5**)
31. Normal K^N functions-based fuzzy information measures with applications in MADM and pattern recognition, INFORMATION SCIENCES, 644, 1-30, 2023
(**SCIE INDEXED, IMPACT FACTOR: 8.1**)
32. On Dual Proximity Measure of Intuitionistic Fuzzy Sets, NEURAL COMPUTING AND APPLICATIONS, 35, 6293-6311, 2023 (**SCIE INDEXED, IMPACT FACTOR: 4.5**)
33. Some novel q-rung orthopair fuzzy similarity measures and entropy measures with their applications, EXPERT SYSTEMS, 40, e13240, 2023
(**SCIE INDEXED, IMPACT FACTOR: 3.0**)
34. An Asymmetric Measure of Comparison of Neutrosophic Sets, NEUTROSOPHIC SETS AND SYSTEMS, 55, 1-15, 2023 (**SCOPUS**)
35. Novel fuzzy similarity measures and their applications in pattern recognition and clustering analysis. GRANULAR COMPUTING, 2023. <https://doi.org/10.1007/s41066-023-00393-y> (**SCOPUS**)
36. Correlation coefficients in T-spherical fuzzy environment using statistical viewpoint and their applications, INTERNATIONAL JOURNAL OF OPERATIONAL RESEARCH, 47(3), 2023, DOI: 10.1504/IJOR.2020.10037551 (**SCOPUS**)
37. Novel Construction Method for Pythagorean Fuzzy Similarity Measures, International Journal of Information Technology, 16 (4), 2089-2097, (2024) (**SCOPUS**)

38. Aggregation operators-based divergence measures for single-valued neutrosophic sets with their applications to pattern recognition, JOURNAL OF INTELLIGENT AND FUZZY SYSTEMS, 46(4), 2024 (**SCIE INDEXED, IMPACT FACTOR: 1.7**)
39. Pattern Recognition and Image Segmentation Based on Some Novel Fuzzy Similarity Measures, Journal of Experimental & Theoretical Artificial Intelligence (**Accepted**) (**SCIE INDEXED, IMPACT FACTOR: 1.7**)
40. Novel Construction Methods for Picture Fuzzy Divergence Measures with Applications in Pattern Recognition, MADM, and Clustering Analysis, Pattern Analysis and Applications (To Appear) (**SCIE Indexed, Impact Factor:3.7**)
41. Novel Similarity measure for interval-valued intuitionistic trapezoidal fuzzy numbers, International Journal of Information Technology, (**To Appear**) (**SCOPUS**)
42. Single-valued neutrosophic Yager power aggregation operators and its application to MCDM, Yugoslav Journal of Operations Research (**To Appear**) (**SCOPUS**)

Published Journal Papers (Peer Reviewed Journals)

1. Three Families of Generalized Fuzzy Directed Divergence, Advanced Modeling and Optimization 14 (3), 599-614, 2012.
2. On Some Divergence Measures Between Fuzzy Sets And Aggregation Operations, Advanced Modeling and Optimization 15 (2), 235-248, 2013.
3. On a Generalized Hyperbolic Measure of Fuzzy Entropy, International Journal Of Mathematical Archive,4, 136-142, 2013
4. A new Measure of Fuzzy Directed Divergence and its Applications in image Segmentation, International Journal of Intelligent Systems and Applications, 4, 81-89, 2013.
5. Two Parameter Entropy of Uncertain Variables, Mathematical Sciences International Research Journal 3 (1), 170-174, 2014
6. A review of Some Applications Of classical Probabilistic Information Measures, International Journal Of Mathematical Archive,6, 202-208, 2015

7. Applications Of a Generalized Hyperbolic Measure of Entropy, International Journal of Intelligent Systems and Applications, 7, 36-43, 2015.
8. An Exponential Hesitant Fuzzy Entropy Measure, Journal of Basic and Applied Engineering Research 6 (5), 283-288, 2019.
9. On Generalized Intuitionistic Fuzzy Knowledge Measure and its Application in MADM using Combined Weights, International Journal of Recent Technology and Engineering (IJRTE), 8(2), 2019
10. Divergence Measures and Aggregation Operators for SingleValued Neutrosophic Sets with Applications in Decision-Making Problems, Neutrosophic Systems with Applications, Vol. 20, 2024.

Papers in Conference Proceedings:

1. Concept of Certainty in Residual life Of a system, AIP CONFERENCE PROCEEDING, 2142 , 1-5, 2019 (**SCOPUS INDEXED**)
2. An Improved Picture Fuzzy Similarity Measure with Its Application in Pattern Recognition and COVID-19. I edited book "Applied Nonlinear Analysis and Soft Computing" (pp. 43-76), Springer Nature Singapore. (**SCOPUS INDEXED**)
3. On Monotonic Function Method for Generating Fuzzy Similarity Measures. In International Conference on Intelligent and Fuzzy Systems (pp. 54-64), Intelligence and Sustainable Future Proceedings of the INFUS 2023 Conference, Volume 1, Springer Nature Switzerland. (**SCOPUS INDEXED**)

Book Chapters:

1. Generalized knowledge measure based on hesitant fuzzy sets with application to MCDM (Chapter 2) in the edited Book “Applications of Mathematical Modeling, Machine Learning, and Intelligent Computing for Industrial Development, 1st Edition, CRC Press, 2023”

Indices:

Google Scholar			Scopus		
Citations	h-index	i10 index	Citations	h-index	i10 index
941	19	26	672	17	22

Research Supervised:

A. Ph.D. Supervision:

Student Name	Year	Role	Research Topic	Status
Sumita Lalotra	2017-2020	Supervisor	A Study of Information Measures and Correlation Measures based on Intuitionistic and Hesitant Fuzzy Sets	Awarded
Sonam Sharma	2016-2020	Supervisor	Some Information Measures and Correlation Measures Based on Fuzzy and Intuitionistic Fuzzy Sets	Awarded
Abdul Haseeb Ganie	(2018-2022)	Supervisor	Fuzzy and Non-Standard Fuzzy Information Measures and Correlation Measures with their Applications	Awarded
Koushal Singh	Registered in March 2020	Supervisor	Theoretical and Empirical Study of Some Non-Standard Fuzzy Information Measures and Their Duals	Submitted
Sonam Sharma	Registered in March 2020	Supervisor	Some Single-Valued Neutrosophic Information Measures with Applications	Near Submission
Anjali Sharma	Registered in October 2022	Supervisor	A Study of Information Measures based on Interval-valued Intuitionistic Fuzzy Sets	Continuing

B. Master Project/Thesis Supervision:

S.NO.	Title of the Master Thesis	Year of award
1.	On Some Noetherian and Artinian Rings	2013
2.	A survey of E-resources for research in Mathematical Sciences	2014
3.	On Some Information Theoretic Models	2014
4.	A Study of Intuitionistic Fuzzy Sets and Their Applications	2015
5.	Multi-criterion Decision Making in Framework of Fuzzy Theory	2016
6.	Fuzzy Similarity and Dissimilarity Measures with Their Application in Pattern recognition and Medical Diagnosis	2016
7.	A study of Aggregation Operators	2017
8.	Basics of Number Theory and Cryptography	2017
9.	On Some Clustering Methods	2018
10.	On Some Methods of Image Segmentation	2018
11.	On Some Methods of Decision Making	2019
12.	A Study of Some Functional Equations	2019
13.	On Some Information Measures of Neutrosophic Sets	2020
14.	On Some Applications of Fuzzy Logic	2020
15.	On Certain Convex Function	2021
16.	Geodesic And Related Concepts	2021
17.	A Review Of Some Fundamental Concepts Of Mathematical Analysis	2021
18.	Applications of Matrices	2022
19.	Symmetric Functions	2022
20.	Some Mathematical Models based on Differential Equations	2023
21.	Fuzzy Graph and its Applications	2023

Research Awards:

- Included in the Prestigious list of top 2% Scientists of the World for the year 2023-24 , as per the list released by Elsevier and Standford University

- Best Paper Award in 2024 JNVU-ABVU- AIMT Spring International Conference on Innovative Research in Science, Management and Technology (ICIRSMT) organized by Jai Narayan Vyas University, Jodhpur (In Association with Global Knowledge Foundation, USA) during 5-7 January 2024

Research Evaluations:

A. PhD Thesis Evaluations:

- Evaluated a Ph.D Thesis, Manipal University, Jaipur

B. Research Paper Evaluations:

- Reviewer, International Journal of Intelligent Systems, Wiley (**SCIE Indexed Journal**)
- Reviewer, IEEE Transactions on Systems, Man and Cybernetics (**SCIE Indexed Journal**)
- Reviewer, Artificial Intelligence Review (AIRE), Springer Nature (**SCIE Indexed Journal**)
- Reviewer, Applied Intelligence, Springer Nature (**SCIE Indexed Journal**)
- Reviewer, Mathematical Reviews, American Mathematical Society
- Reviewer, Kybernetes, Emerald (**SCIE Indexed Journal**)
- Reviewer, Kybernetika (**SCIE Indexed Journal**)
- Reviewer, Computational and Applied Mathematics, Springer Nature (**SCIE Indexed Journal**)
- Reviewer, Communications in Mathematics and Statistics, Springer Nature (**SCIE Indexed Journal**)
- Reviewer, Indonesian Journal of Electrical Engineering and Computer Science (**SCIE Indexed Journal**)
- Reviewer, Journal of Advances in Mathematics and Computer Science (**Scopus Indexed Journal**)
- Reviewer, Sustainability (**SCIE Indexed Journal**)
- Reviewer, Processes (**SCIE Indexed Journal**)
- Reviewer, Mathematics (**SCIE Indexed Journal**)
- Reviewer, Energy (**SCIE Indexed Journal**)
- Reviewer, Soft Computing, Springer Nature (**SCIE Indexed Journal**)

- Reviewer, AIMS Mathematics (**SCIE Indexed Journal**)
- Reviewer, IEEE Access (**SCIE Indexed Journal**)
- Reviewer, Alexandria Engineering Journal, Elsevier (**SCIE Indexed Journal**)
- Reviewer, Expert Systems with Applications, Elsevier (**SCIE Indexed Journal**)
- Reviewer, Engineering Applications of Artificial Intelligence, Elsevier (**SCIE Indexed Journal**)
- Reviewer, International Journal of System Assurance Engineering and Management, Springer, (**Scopus Indexed Journal**)

Attended Workshops/Orientation/Refresher Courses

1. AICTE Sponsored Staff Development Programme on “Theory and practical Applications of FEM” organized by MED, NCCE Israna, Haryana during 14th June, 2010 to 25th June, 2010.
2. UGC-Sponsored Orientation Course at Academic Staff College, BPS Mahila Vishwavidyalaya , Khanpur Kalan during 21st Nov, 2012 to 18th Dec, 2012.
3. One week Staff Development Program Introduction to MATLAB® and Matrox® Imaging Library (MIL) with Emphasis on hands on Practice (SDPMMIL,12) at School of ECE , SMVDU during 23rd to 27th Dec, 2012.
4. TIES Sponsored One week National Workshop on Basic Econometrics at School of Business, Faculty of Management, SMVDU during 3rd to 8th March,2014
5. UGC Sponsored Refresher Course at UGC-Academic Staff College, University of Allahabad during 24th May, 2014 to 13th June, 2014.
6. ICT based ONE WEEK Workshop "Optimization using MATLAB", from 24th - 28th October, 2016 conducted by NITTTR, Chandigarh organized at SMVDU, Katra.
7. ICT based ONE WEEK Workshop "Cloud Computing", from 5th -9th December 2016 conducted by NITTTR, Chandigarh organized at SMVDU, Katra.
8. Participated in one-day workshop on “Patent Drafting and Filing” organized by Deptt. of Biotechnology, Shri Mata Vaishno Devi University, Katra in association with TIFAC, DST, GOI

9. Two week Refresher course in Research Methodology at HRDC, Shri Mata Vaishno Devi University, Katra w.e.f. 14th March, 2017 to 27th March, 2017
10. One week STTP on “Stochastic Modelling and Optimal Control of Engineering System” during May 22 – 26, 2017 organized by Deptt. of Mathematics, IIT Roorkee under QIP..
11. Participated and completed “one week Faculty Development Program on Applications on Soft Computing and Machine Learning” from April 3-7, 2018 organized by School of Computer Science and Engineering, SMVDU, Katra.
12. Participated and successfully completed AICTE approved Faculty Development Program (FDP101X) on “Foundation program in ICT for Education” conducted by IIT Bombay from March 8-April 12, 2018 under the aegis of PMMMNMTT, MHRD, GOI. (Two week equivalent FDP)
13. Participated and successfully completed AICTE approved Faculty Development Programme (FDP201X) on “Pedagogy for Online and Blended Teaching-Learning Process” conducted by IIT Bombay from 3 May to 30 May, 2018 under the aegis of PMMMNMTT, MHRD, GOI. (Two week equivalent FDP)
14. Participated and successfully completed 03 days Faculty Development Program on “Effective Teaching Learning in Higher Education ” organized by Shri Mata Vaishno Devi University, Katra from 4-6 July, 2018.
15. Participated and successfully completed one-week Faculty Development Program on “Teaching Science and Mathematics” organized by Faculty Development Centre, Shri Mata Vaisno Devi University, Katra from 21st Jan-25th Jan, 2019 under the aegis of PMMMNMTT, MHRD, GOI.
16. Participated and successfully completed “Training of Trainers Workshop on UGC-Faculty Induction Programme (FIP) from 27-29 March 2019 held at IISER, Pune.
17. Participated and successfully completed one week online Short Term Program on Building Capacities of Teachers in Blended Learning organized by the Human Resource Development Centre, University of Hyderabad from 14th to 19th March, 2022.
18. Participated and successfully completed one week Faculty Development Programme on “Application of Mathematical Tools in Research” organized by HRDC, Devi Ahilya Vishvvidyalaya, Indore (Online Mode) (13-06-2022 to 18-06-2022)

19. Participated and successfully completed in 08 Days "NEP Orientation and Sensitization Programme scheduled from August 19-28, 2024" organized by NEIPA, New Delhi

MOOC Course Certifications

S. No	Course details	Place	Duration	
			From	To
01	Introduction to Soft Computing	NPTEL	January 2018	March 2018
02	Integral and Vector Calculus	NPTEL	January 2019	April 2019
03	Simulation of Business Systems: An Applied Approach	NPTEL	January 2020	March 2020
04	Basic Linear Algebra	NPTEL	February 2021	April 2021
05	Calculus for Commerce, Economics and Management	NPTEL	August 2022	October 2022
06	Fuzzy Sets, Logic and systems & Applications	NPTEL	January 2023	April 2023

Presented papers/Invited Lecture/Resource Person/Session Chair in Workshops/Seminars/Conferences/FDP/Refresher Courses

A. International Conference abroad

1. **Participated and presented a paper** entitled, "On some novel correlation coefficients in picture fuzzy environment" in 2019 MTMI International Conference on Emerging Issues in Business, Technology and Applied Sciences during 20-22 December 2019 organized by Amity Institute of Higher Education, Ebene, **Mauritius**.
2. **Participated and presented a paper (Online)** entitled, "A Metric-Based Knowledge Measure of Hesitant Fuzzy Linguistic Term Set" in 2021 AIMT Conference (Virtual) On Interdisciplinary Research In Applied Mathematics, Management And Technology

organized by American Institute Of Management and Technology, USA (In Association With Global Knowledge Foundation, USA)

3. **Participated and presented a paper (online)** entitled, “On monotonic function method for generating fuzzy similarity measures” in International Conference on Intelligent and Fuzzy Systems organized by Istanbul Technical University between August 22nd-24th, 2023 in İstanbul, Türkiye.

B. International Conferences within the country

1. **Participated and presented a paper** entitled, “Novel Fuzzy Knowledge Measure and Fuzzy Correlation Coefficient with Their Applications” in 2024 JNVU-ABVU-AIMT Spring International Conference on Innovative Research in Science , Management and Technology (ICIRSMT) organized by Jai Narayan Vyas University, Jodhpur (In Association With Global Knowledge Foundation, USA) during 5-7 January 2024.
2. **Participated and presented a paper** entitled, “On a Fuzzy Similarity Measure Based on Monotonic Functions” in the XXVIII International Conference of IAPS at Vijaynagara Shri Krishan Devrai University, Ballari, Karanataka, during 21-23 December 2022.
3. **Participated and presented a paper (online)** entitled, “On a Novel Complementary Dual of Fuzzy Entropy” in 2022 USTM- AIMT Summer International Conference on Innovations in Management, Science and Technology (ICIMST) by University of Science and Technology, Meghalya (In Association With Global Knowledge Foundation, USA)
4. **Participated and presented a paper** entitled, “Correlation coefficients in T-spherical fuzzy environment using statistical viewpoint and their applications” in International Conference (Online) On Recent Trends in Mathematics and its Applications to Graphs, Networks and Perti Nets during 20-24 July, 2020 organized by School of Computational and Integrative Sciences, JNU, NEW DELHI & VIGYANA PARISHAD OF INDIA.
5. **Participated and presented a paper** entitled, “On a certainty measure of residual life of a System” in International Conference on Applied and Basic Sciences on 8th February 2019 organized by GDC Memorial College Bahal, Bhiwani, Haryana.
6. **Participated and presented a paper** entitled, “On useful fuzzy knowledge measure and accuracy measure” 84th Annual conference of Indian Mathematical Society-An International Meet during 27-30 November 2018 organized by School of Mathematics, Shri Mata Vaishno Devi University, Katra, Jammu and Kashmir.

7. **Participated and presented a paper** entitled, “On a dual of residual uncertainty measure” in International conferences & 14th Biennial Conference of Indian Society of Industrial and Applied Mathematics (ISIAM) from February 2-4, 2018, organized by Department of Mathematics, Guru Nanak Dev University, Amritsar, Punjab.
8. **Presented research paper** titled “Studies on Intuitionistic Fuzzy Information Measure” in 1st International Conference of Indian Society of Information Theory and Applications (ISITA) on “Mathematical Modeling, Optimization and Information Technology” organized by Sri Sai College of Engineering and Technology, Badhani, Pathankot, Punjab during 16th to 19th Jan, 2015.
9. **Presented research paper** titled "Two Parameter Entropy of Uncertain Variables" in International Conference on Mathematics & Engineering Sciences organized by Chitkara University Himachal Pradesh during 20th to 22nd March, 2014

C. National Conferences

1. **Presented Paper** titled “On Fuzzy Concepts in Engineering & Technology” in AICTE Sponsored National Seminar on Applications of Mathematics in Engineering Sciences organized by Deptt. Of ASH, NCCE Israna, Haryana on 17th March, 2012.
2. **Presented paper** entitled “On Some Economic Applications of Shannon’s Measure” in two days National workshop on Mathematics and its Applications organized by Deptt. of Mathematics, DCR University of Science and Technology, Murthal, Sonapat (Haryana) during 18th to 19th October, 2012.
3. **Presented Paper** titled “New Measure of Fuzzy Directed divergence & its application in image segmentation” in “First National Conference on Machine intelligence Research and Advancement” organized by SECE, SMVDU during 21st to 23rd Dec, 2012.
4. **Presented paper** titled “On Some Aspects of Modelling” in National Conference on Algebra, Analysis and Applications organized by School of Mathematics, SMVDU, Katra during 15th to 16th March, 2013.
5. **Presented paper** titled “On a New Csiszar’s f-divergence Measure” in National Seminar on Recent Trends in Mathematical Sciences organized by School of Mathematics, SMVDU, Katra on 22nd March, 2013.

6. **Presented research paper** titled “On a New Intuitionistic Fuzzy Information Measure using REF” in 2nd National Symposium of Interdisciplinary Sciences organized by Govt. Gandhi Memorial Science College, Jammu during 27th to 28th February, 2015.
7. **Presented paper** titled "On a New Intuitionistic Fuzzy Divergence " in the National Conference on Recent Trends in Mathematical Sciences organized by DoM, SMVDU, Katra during 8th to 9th October, 2015.
8. **Presented paper** titled "On entropy and cross entropy of uncertain variables" in the National Conference on Recent Trends in Mathematical Sciences organized by DoM, SMVDU, Katra during 9th to 10th February, 2017.
9. **Presented paper** titled " Generalized entropy of finite partition of fuzzy set " in the National Conference on Topology, Analysis, Algebra and their Applications organized by DoM, SMVDU, Katra during 7th to 8th March, 2017.
10. **Presented paper** titled " On Information Energy of Order Statistics" in the National Conference on Recent Trends in Mathematical Sciences organized by DoM, SMVDU, Katra during 9th to 10th February, 2017.
11. **Presented paper** titled " On a Hesitant Fuzzy Linguistic Term Knowledge Measure Based on Similarity Measure" in the National Conference on Mathematical Sciences for Applied and Agricultural Research (Online) organized by the Department of Mathematics and Statistics, CCS Haryana Agricultural University, Hisar on 22nd February, 2022.

D. Invited Talks/ Resource Person

1. **Delivered a talk** entitled, “On measures of knowledge and accuracy in intuitionistic fuzzy environment and their applications” in National Seminar on “Recent Advances in Complex Analysis and Operator Theory” and 27th Annual Conference of the Jammu Mathematical Society from February 15-17, 2018, organized by Department of Mathematics, University of Jammu, Jammu, J & K.
2. **Delivered a talk** entitled, “On Some Developments and Applications concerning Fuzzy Theory and its Extensions ” in International Conference (Online) On Recent Trends In Science, Humanities & Engineering” on 27th September 2020, organized by Institute Of Teacher Education, Modinagar ,Uttar Pradesh.

3. **Resource Person** in “ One Week FDP (Online) On Recent Advances In Mathematical Sciences & Applications In Engineering” during 17-21 October 2020 organized by Government College Simalwara, Dungarpur, Rajasthan.
4. **Resource Person** in “Two Week Online Refresher Course In Mathematics” during 23rd October 2020 to 6th November 2020 organized by UGC-HRDC, BPS Mahila Vishwavidyalaya, Khanpur Kalan, Sonipat, Haryana.
5. **Resource Person** in “Two Week Refresher Course in online Course Development and Use of ICT in Teaching & Research (ID)” during 18th November 2020 to 4th December 2020 organized by UGC-HRDC, BPS Mahila Vishwavidyalaya, Khanpur Kalan, Sonipat, Haryana.
6. **Delivered a talk** entitled, “On Some Concepts in Fuzzy Theory with Applications” on 25th May 2021 in Virtual International Conference On Emerging Trends In Engineering, Science, Management & Commerce organized by Madhyanchal Professional University, Bhopal (M.P.).
7. **Delivered a talk** entitled, “Fuzzy Paradigms of Uncertainty Modeling” on 21st October 2022 in National Conference on Recent Advances in Mathematics organized by the Department of Mathematics, Central University of Jammu.
8. **Resource Person** in “Two Week Refresher Course on Mathematics in India: from Vedic era to modern Times ” during 9th December 2023 to 22nd December 2023 organized by UGC-HRDC, BPS Mahila Vishwavidyalaya, Khanpur Kalan, Sonipat, Haryana.

E. Session Chair in International Conferences

1. **Chaired a Technical Session** ‘Soft Computing and Applications’ in 2019 MTMI International Conference on Emerging Issues in Business, Technology and Applied Sciences during 20-22 December 2019 organized by Amity Institute of Higher Education, Ebene, **Mauritius**.
2. **Chaired a Session** in International Conference on Mechanical Engineering and Allied Sciences (ICMEAS-2018) during 14-15 September 2018 organized by School of Mechanical Engineering, Shri Mata Vaishno Devi University, Katra, **Jammu and Kashmir**.

3. **Chaired a Session** in the 3rd International Conference on Innovative Research in Science, Management and Technology (ICIRSMT-2021) during 27-28 December 2021 organized by Department of Computer Science and Application, Atal Bihari Vajpayee University, Bilaspur (C. G.), India in association with American Institute of Management and Technology (AIMT), USA
4. **Chaired a Session** in the XXVIII International Conference of IAPS at Vijaynagara Shri Krishan Devrai University, Ballari, Karanataka, during 21-23 December 2022.

Extension Work (Seminars/Workshops/Conferences/events organized):

Extension Work		Member/Coordinator/Organizing Secretary (various conferences as given below)
Seminar / Workshop / Conference/event Organized		
Date	Duration	
28 th February, 2013	01 day	Coordinator , Written competition and science quiz event at School of Mathematics to celebrate National Science Day.
15-16 th March, 2013	02 days	Member , organizing Committee in National Conference on Algebra, Analysis and Applications organized by School of Mathematics
22 nd March, 2013	01 day	Member , organizing Committee in National Seminar on Recent Trends in Mathematical Sciences organized by School of Mathematics
8-9 th October, 2015	02 days	Member , organizing Committee in National Conference on Recent Trends in Mathematical Sciences organized by School of Mathematics
9-10 th February, 2017	02 days	Co-organizing Secretary , National Seminar on Recent Trends in Mathematical Sciences organized by School of Mathematics
28 th February, 2017	01 day	Member , Organizing Committee, National Science Day, 2017
7-8 th March, 2017	02 days	Member , organizing Committee in National Conference on Topology, Analysis, Algebra and their Applications organized by School of Mathematics
27-30 November 2018	04 days	Member (Accommodation In charge), 84 th Annual conference of Indian Mathematical Society-An International Meet organized by School of Mathematics, Shri Mata Vaishno Devi University
16-17 November 2019	02 day	Accommodation In charge , AIU, North Zone Vice Chancellors Meet (2019-2020) organized by Shri Mata Vaishno Devi University

13-14 December 2019	02 days	Coordinator , National Conference on Recent Trends in Mathematical Sciences organized by School of Mathematics, Shri Mata Vaishno Devi University
21-22 December 2020	02 Days	Co-Convener , Virtual International Conference on Mathematical Sciences and Computational Intelligence organized by School of Mathematics, Shri Mata Vaishno Devi University
21-22 December 2021	02 Days	Coordinator , National Level Webinar to celebrate National Mathematics Day organized by School of Mathematics, Shri Mata Vaishno Devi University
27 sept 2021 to 1 st October 2021	01 Week	Coordinator , One Week Faculty Development Program on Mathematics and its Applications in Science & Engineering (online) Faculty Development Centre, SMVDU in association with School of Mathematics , SMVDU
31 may 2022	01 Day	Organizing Secretary , Workshop on “Prevention of Sexual Harassment at Workplace Act 2013” organized by Internal Complaint Committee, SMVDU
21-22 March 2024	02 Days	Coordinator , National conference on Recent Trends in Mathematical Sciences, organized by School of Mathematics, Shri Mata Vaishno Devi University
14-19 October 2024	06 Days	Coordinator , Online STTP on Mathematical Methods, organized by MMTTC, SMVDU

Membership of Professional Bodies

- Life member of Indian Mathematical Society, India
- Life member of Jammu Mathematical Society, Jammu, India.
- Life member of Indian Society of Industrial and Applied Mathematics, India
- Life member of Indian Society of Technical Education, India.
- Life member of Indian Society of Information Theory and Applications
- Life member of IAENG
- Member, RGMIA

Administrative Experience

A. Administrative post:

- Warden, Nilgiri Boys Hostel, SMVDU (27th July, 2016 to 23rd October 2020)
- Deputy Director, Directorate of Quality Assurance, SMVDU (5th December 2023 –to date)

B. Convener/Coordinator/Member of Committees, etc :

25th June, 2007 to 29th Nov., 2011 at SDITM, Israna, Panipat, Haryana

- Professor In charge, Central Library (29/07/2007 to 29/11/2011)
- Member, Prospectus/Information Brochure/Pamphlets Printing and designing Committee for Admission (2008-2009)
- Member, Screening Committee for recruitment of various Technical and administrative positions (2009)
- Member, Team for Internal Audit for ISO Certification (2010)
- Event Coordinator (Quiz) at National level Inter College Techno-Test “Versatelia-10” 20th March, 2010. (SD Institute of Technology and Management)
- Event Coordinator(Puzzle) at National level Inter College Techno-Test “Synergy-10” 16-17th April,2010. (Joint Venture of NC-SD Group of Institutions)
- **Organizing Secretary**, National workshop on “**Microwave and Wireless communications**” at SDITM, Israna, Panipat. 30/04/2011. (ISTE TEACHER’S CHAPTER)
- HoD, Applied Sciences & Humanities (27/09/2011 to 29/11/2011)
- Examination Coordinator, Internal Examination Cell (2011-2012)
- Member, Anti Ragging Committee (2010-2011, 2011-2012)

1st Dec., 2011 to till date at SMVDU, Katra, J & K

- **Member-Secretary**, Academic Affair Committee, School of Mathematics (2017 to till date)
- **Member**, Student Faculty Committee (2012-till date)
- **Coordinator**, Time Table, School of Mathematics (2017 to till date)

- **Coordinator** at School of Mathematics (Remedial Class Scheme for SC/ST/OBC/BPL) under Equal Opportunity Cell **(2013-2014)**
- **Member Ex-officio**, Board of Studies
- **Member**, Commercial Establishment Committee **(2013 to till date)**
- Member, Anti Ragging Squad **(2014, 2015).**
- **Coordinator**, Computer Lab, SoM **(2014 to till date)**
- Member, DSRC **(2015 to till date)**
- Member, DRC **(2016-2017, 2019 to till date)**
- **Coordinator**, Workshop-cum-BoS, **29th May, 2016**
- Member, Admission Committee, DoM **(2016)**
- **Faculty Coordinator**, MOOC (Spoken Tutorial **2016)**
- **Faculty Coordinator**, Music Club **(2016 to till date)**
- **Convener**, Screening Committee, SMVDU-TBIC (recruitments of various posts in **2016)**
- Member, Hygiene Committee of Hostel
- Member, Review committee, Ms/ CISB, Security Services **(2017-2019)**
- Member, Review committee, M/s CIS Bureaus Facility Services Pvt. Ltd., Jammu **(2017-2019)** (providing services of Drivers, Peons/Helpers & General Workers at SMVDU)
- Member, Review committee, M/s Lakshmi Enterprises, Bhatinda (providing housekeeping services at SMVDU) **(2017-2019)**
- **Member Secretary**, School level NAAC committee **(2018)**
- Member, Shortlisting/Screening Committee for the recruitment of Hostel Caretaker (Male/Female) **(August 2018)**
- Member, Shortlisting/Screening Committee for the recruitment of Junior Assistants **(August 2018)**
- Member, Academic Affair Committee, Directorate of Quality Assurance, SMVDU **(2019 to 2022)**
- Member, Committee for Medical Insurance of the Students **(2020-2021)**
- Member-Secretary, School Research Committee (January 2020-2024)
- Member, Internal Complain Committee (2021-22)

- Member, Inspection committee, Commercial Establishments (2021-till date)
- Member, Internal Audit Committee, Directorate of Quality Assurance (2021)
- Member, Administrative Affair Committee, Directorate of Quality Assurance, SMVDU (2022-2023)
- **Coordinator**, Anti Ragging Squad, 2022-23, 2023-24, 2024-25
- **Coordinator**, Academic Bank Credit, NEP, 2022-23.
- Member, Physical Stock Verification committee, 2022-23
- Member, Library Stock Verification committee, 2022-23
- Member, MMTTU, SMVDU (2023-24)
- **Coordinator** from School of Mathematics for post event activity, **Viksit Bharat@2047**.
- **Coordinator**, Educational Trip to CUH, Dharamshala during 01-03 May 2024
- **Member**, Central Admission Committee (FYUP) (2024-25)
- **Member**, Committee for preparing DPR for offering B.Tech. (Mathematics and Computing) Program at SMVDU from AY 2024-25
- **Member**, Core Committee for preparing Course Structure and Course Curriculum of B.Tech. (Mathematics and Computing) Program to be offered by SMVDU from AY 2024-25
- **Member Secretary**, Committee for review of question paper format & Evaluation by External Expert (2024-25)
- **Member Secretary**, Committee for Internal Academic & Administrative Audit of SoCE & SoALD and Internal Administrative Audit of Department(s)/ Section(s) (2024-25)
- **Chairman**, Inspection Committee, Material/Equipment purchase of N. K. Bansal Memorial Library, SMVDU (2024-25)

Web Profiles

Research Gate: https://www.researchgate.net/profile/Surender_Singh5

Scopus Author ID: <https://www.scopus.com/authid/detail.uri?authorId=57201871350>

MathSciNet: <https://mathscinet.ams.org/mathscinet/search/author.html?mrauthid=956574>

Orcid ID:  <http://orcid.org/0000-0003-3430-9674>

Google Scholar: <https://scholar.google.com/citations?user=ehD533EAAAAJ>

Personal Details:

S/o Sh. Guljari Lal
Smt. Sita Devi

Present School of Mathematics

Address: Shri Mata Vaishno Devi University, Katra-182320, Jammu and Kashmir

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Mobile No.: 9906132939

Declaration: The information given above is correct to the best of my knowledge.

Date: 22nd November 2024

Place: SMVDU, Katra

Sd/-

Dr. Surender Singh