

## BIO-DATA

1. Name and full correspondence address: **Dr. ILA SHARMA**  
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**Malaviya National Institute of Technology,**  
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Phone: +91-9549650769
3. Institution : Malaviya National Institute of Technology,  
Jaipur, Rajasthan, India
4. Gender (M/F/T) : F
5. Category Gen/SC/ST/OBC : Gen
6. Whether differently abled (Yes/No) : NO

7. Academic Qualification (Undergraduate Onwards)

	<b>Degree</b>	<b>Year</b>	<b>Subject</b>	<b>University/Institution</b>	<b>% of marks/ CGPA</b>
1.	B.E.	2009	ET & T	CSVTU, Bhilai (C.G.)	8.33
2.	M. Tech	2012	ECE	JUIT, Wagnaghat, (H.P.)	8.3
3.	PhD	2017	ECE	PDPM IIITDM Jabalpur (M.P.)	-

8. Ph.D thesis title, Guide's Name, Institute/Organization/University, Year of Award:

**Thesis Title** : Design of Multiplierless Multirate Filterbank Using Evolutionary Techniques  
**Guide's Name** : Dr. Anil Kumar  
**Institute** : PDPM IIITDM Jabalpur (M.P.)  
**Year of Award** : 2017

9. Work experience (in chronological order).

S.No.	Positions held	Name of the Institute	From	To	Pay Scale
1	SRF	PDPM IIITDM Jabalpur (M.P.)	3/3/2017	30/11/2019	As per DST norms
2	Assistant Professor	MNIT, Jaipur, Rajasthan	27/1/2020	14/12/2023	Pay Level 10
3	Assistant Professor	MNIT, Jaipur, Rajasthan	15/12/2023	Till Now	Pay Level 11

10. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.

S.No	Name of Award	Awarding Agency	Year
1	Travel Bursary Award	IEEE ICONSIP conference	2016
2	Reviewer of innovative ideas/innovations received under the INSPIRE Awards-MANAK	National Innovation Foundation India	2020,2021,2022,2023
3.			

11. Publications (List of papers published in SCI Journals, in year wise descending order).

S.No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1	A. Sharma, I. Sharma and A. Kumar	Signal Acquisition and Perspective of EMG Signal-based Systems and Applications	IETE Technical Review	40	-	2023
2	A. Kumar, I. Sharma, Vishwakarma, L.K. Balyan	A novel technique for common sub-expression elimination for digital FIR filters using hit and miss transform	Applied Acoustics (Elsevier)	174	1-5	2021
3	N Sajwan, I. Sharma, A. Kumar, LK Balyan	Performance of Multiplierless FIR Filter Based on Directed Minimal Spanning Tree: A Comparative Study"	Circuits Systems And Signal Processing (Springer )	39	1-25	2020
4	A. Kumar, I. Sharma, L.K. Balyan	Design of low power multiplierless FIR filter with enhanced adder efficiency using flower pollination optimization	Applied Acoustics (Elsevier)	39	1-14	2020
5	A. Kumar, N. Agrawal, I. Sharma, S. Lee and H. N. Lee	Hilbert Transform Design Based on Fractional Derivatives and Swarm Optimization	IEEE Transactions on cybernetics (IEEE)	49	1-10	2020
6	A. Kumar and I. Sharma	A new method for designing multiplierless two-channel filterbank using shifted-Chebyshev polynomials	International Journal of Electronics (Taylor & Francis)	106	537-552	2019
7	I. Sharma, A. Kumar, D. Kumar and G. K. Singh	Performance of CSE Techniques for Designing Multiplier-Less FIR Filter Using Evolutionary Algorithms	Circuits, System and Signal Processing (Springer)	37	2574-2590	2018
8	I. Sharma, A. Kumar and Singh G. K.	An Efficient Method for Designing Multiplierless Non-uniform Filterbank based on Hybrid Method using CSE Technique	Circuit System and Signal Processing (Springer)	36	1169-1191	2017
9	I. Sharma, A.	Design of Multiplier less	IET Circuit	11	29-40	2017

	Kumar, Singh G. K. and Lee H. N.	Prototype Filter for Two-channel Filterbank using Hybrid Method in FCSD Space	Device and System (IET)			
10	<b>I. Sharma</b> , A. Kumar and Singh G. K.	Adjustable Window based Design of Multiplierless Cosine Modulated Filterbank using Swarm Optimization Algorithms	AEU International Journal of Electronics and Communications, (Elsevier)	70	85-94	2016
11	<b>I. Sharma</b> , Kuldeep B., A. Kumar, and V. K. Singh	Performance of Swarm based Optimization Techniques for Designing Digital FIR Filter: A Comparative Study	Engineering Science and Technology, an International Journal, Elsevier (Elsevier)	19	1564-1572	2016

## 12. Books/Reports/Chapters/General articles etc.

S.No	Title	Author's Name	Publisher	Year of Publication
<b>Book Chapters</b>				
1	Advances in Multirate Systems	Kumar, A., B. Kuldeep, <b>I. Sharma</b> , G. K. Singh, and H. N. Lee.	Springer	2018
2	Advances in Intelligent Systems and Computing, published by - Springer	A. Kumar, N. Agrawal, and <b>I. Sharma</b>	Springer	2019
3	Advancement in Spectrum Sensing Algorithms in Cognitive Radio Architecture	T. Shambharkar, <b>I. Sharma</b> and S.Maurya	Springer	2022
<b>Conferences</b>				
1	Design of Two Channel Multiplierless Filterbank Using Common Sub-Expression Elimination	<b>I. Sharma</b> , A.Kumar, G. K.Singh	International Conference Signal and Information Processing (IConSIP) India	2016
2	Design of Multiplierless Cosine Modulated Filterbank Using Hybrid Technique in Sub-Expression Space	<b>I. Sharma</b> , A.Kumar, G.K.Singh, H-N. Lee	Digital Signal Processing (DSP), IEEE International Conference China	2016
3	A New Hybrid CSE Technique for Multiplier-Less FIR Filter	<b>I. Sharma</b> , A.Kumar, L.K.Balyan, G. K.Singh	IEEE International Conference on Digital Signal Processing (DSP)	2017

			London, UK	
4	Design of Multiplierless M-Channel Cosine Modulated Filterbank Using Hybrid CSE Technique	<b>I. Sharma</b> , A. Kumar, L.K.Balyan	IEEE International Conference on Digital Signal Processing (DSP) China	2018
5	Adder Efficient Multiplierless NonUniform Filterbank Design Using Hybrid Algorithm	<b>I. Sharma</b> , N.Agrawal, A.Kumar, L.K.Balyan	International Conference on Communication and Signal Processing (ICCSP) India	2018
6	Design of Finite Impulse Response Filter With Controlled Ripple Using Cuckoo Search Algorithm	Anil Kumar, N.Agrawal, <b>I.Sharma</b>	International Conference on Computer Vision and Image Processing India	2018
7	Design of Multiplierless Digital IIR Filter Using Modified Cuckoo Search Algorithm	S. Ansari, G.Kishor, P.K.Verma, N.Agrawal, <b>I.Sharma</b> , A.Kumar	International Conference on Communication and Signal Processing (ICCSP) India	2018
8	Performance of Multiplierless FIR Filter Based on CSD and Binary: A Comparative Study	N. Sajwan, A.Kumar, <b>I.Sharma</b> , L. K.Balyan	ICSP, IEEE Conference	2019
9	Design and Performance Evaluation of Wilkinson Power Divider	Richa, Sanjeev yadav, M.M.Sharma, Joohi Garg, Chandrashekhar Ganesh Jha, <b>Ila Sharma</b>	IEEE Indian Conference on Antennas and Propagation (InCAP) MNIT Jaipur	2021
10	8 X 1 Array Implementation of Bull's Horn Design Microstrip Patch Antenna for Broadcast Satellite and Military Communication	Priya Kaith, M.M.Sharma, <b>Ila Sharma</b> , I.B.Sharma, Bhawna Kalra, Jaiverdhan	IEEE Indian Conference on Antennas and Propagation (InCAP) MNIT Jaipur	2021
11	An Onset Based Approach for Feature Extraction and Classification of EMG Signals	Anil Sharma, <b>Ila Sharma</b>	IEEE International Conference on E-Health and Bioengineering EHB 2022 Romania	2022

13. Any other Information (maximum 500 words)

**Membership Information**

IEEE Signal Processing Society (Ex-Chairperson of SP-SBC at PDPM IITDM Jabalpur)

IEEE Women in Engineering (Ex-Chairperson of WIE at PDPM IITDM Jabalpur),

Senior Member IEEE Membership of Signal Processing Society, Women in Engineering

Member of IETE