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### 1. Academic Qualification

Degree Obtained	Discipline	University/Board	School/ Institute	Year of Passing	Percentage
10 <sup>th</sup>	General	Punjab School Education Board, Mohali	Govt. Girls Senior Secondary School, Nabha	2006	77.64
Diploma	Electronics Communication Engineering	Punjab State Board of Technical Education and Industrial Training, Chandigarh	Thapar Polytechnic College, Patiala	2009	78.04
B. Tech.	Electronics Communication Engineering	Punjabi University, Patiala	Punjabi University, Patiala	2012	86.5
M. Tech.	Electronics Communication Engineering	Punjabi University, Patiala	Punjabi University, Patiala	2014	85.2
Ph. D	Electronics Communication Engineering	Punjabi University, Patiala	Punjabi University, Patiala	2020	95

### 2. Experience

#### (a) Teaching Experience

Name of the Organization	Position Held	Period From	Period To	Nature of Work
NIT Jalandhar	Assistant Professor	23-02-2015	02-06-2017	Teaching
IIIT Una	Assistant Professor	16-07-2018	Till Date	Teaching

### 3. Publications

#### (a) International Journal

1. **Gurpreet Kaur** and Gurmeet Kaur, “Nonlinearities mitigation with Fuzzy Neural Networks using a machine learning algorithm in a CO-OFDM system”, *IET Optoelectronics*, *IET*, vol. 1, issue 1, pp. 44 – 51, 06 February, 2020. Doi: 10.1049/iet-opt.2018.5116.
2. **Gurpreet Kaur** and Gurmeet Kaur, “Performance analysis of Wilcoxon-based machine Nonlinear Equalizers for Coherent optical OFDM”, *Optical and Quantum Electronics*, *Springer*, vol. 50, no. 6, pp. 256 – 269, 08 June, 2018. Doi: 10.1007/s11082-018-1519-8.
3. **Gurpreet Kaur** and Gurmeet Kaur, “Nonlinearities Compensator based on SORBFNN in Ultra-Long-Haul High Capacity CO-OFDM systems”, *Photonic network*

*communications, Springer*, vol. 36, no. 3, pp. 316 – 325, 13 July, 2018. Doi: 10.1007/s11107-018-0782-8.

4. **Gurpreet Kaur** and Gurmeet Kaur, “Application of Functional Link Artificial Neural Network for Mitigating Nonlinear Effects in Coherent Optical OFDM”, *Optical and Quantum Electronics, Springer*, vol. 49, no. 6, June 2017. Doi: 10.1007/s11082-017-1065-9.
5. **Gurpreet Kaur** and Gurmeet Kaur, “Various types of functional link artificial neural network based nonlinear equalizers used in CO-OFDM system for nonlinearities mitigation” *International Journal of Electronics and Communication Engineering in association of Seventh Sense Research Group (SSRG-IJECE)*, vol. 5, issue 2, 2018.
6. **Gurpreet Kaur** and Gurmeet Kaur, “A Radial Basis Function Network for Adaptive Channel Equalization in Coherent Optical OFDM Systems” *An International Journal of Engineering Sciences*, Special Issue, vol. 20, 2016. ISSN: 2229-6913 (Print), ISSN: 2320-0332 (Online).
7. **Gurpreet Kaur** and Gurmeet Kaur, “Mitigation of chromatic dispersion using different compensation methods in optical fiber communication”, *International Journal of Engineering and Management Research*, vol. 4, issue 3, pp.21-25, June 2014.
8. **Gurpreet Kaur** and Gurmeet Kaur, “Performance evaluation of the Recursive Least Square Algorithm in electronic dispersion compensation”, *Open Journal of Communications and Software*, vol. 1, no. 2, August 2014.
9. **Gurpreet Kaur** and Gurmeet Kaur, “Electronic Dispersion Compensation Using Sign-Sign LMS Algorithm for 10 Gb/s Link”, *SOP Transactions on Signal Processing*, vol. 1, no. 1, October 2014.
10. **Gurpreet Kaur** and Gurmeet Kaur, “Investigation of dispersion penalty for optical fiber link at different values of fiber dispersion”, *Journal of Advanced Engineering Research*, vol. 1, issue 1, 2014.
11. **Gurpreet Kaur** and Gurmeet Kaur, “Simulation and Comparative Analysis of SS-LMS & RLS Algorithms for Electronic Dispersion Compensation”, *Open Access Library*, vol. 1, July 2014.

(b) International Conference

1. **Gurpreet Kaur** and Gurmeet Kaur, “Upgrading the performance of a CO-OFDM system using Optical Phase Conjugation with Optical Neural Network in a fiber link”, *IEEE International Conference on Measurement, Instrumentation, Control and Automation*, NIT Kurukshetra, India.
2. **Gurpreet Kaur** and Gurmeet Kaur, “Comparison of Algorithms used for training of Artificial Neural Network based Nonlinear Equalizer in a CO-OFDM system” *Proceedings of International Conference on Advances in Electronics, Electrical & Computational Intelligence*, organized by IIIT Allahabad, May 31 – June 01, 2019.
3. **Gurpreet Kaur** and Gurmeet Kaur, “Various types of functional link artificial neural network based nonlinear equalizers used in CO-OFDM system for nonlinearities mitigation” *Proceedings of International Conference on Multidisciplinary Research, Practices & Studies*, organized by Shimla University, Shimla, India, February 23-24, 2018.

4. **Gurpreet Kaur** and Gurmeet Kaur, "Comparison of various functional link artificial neural networks to mitigate the nonlinearities in Coherent Optical OFDM" Proceedings of *Punjab Science Congress*, Punjab Agriculture University, Ludhiana, February 7-9, 2018.
5. **Gurpreet Kaur** and Gurmeet Kaur, "A Radial Basis Function Network for Adaptive Channel Equalization in Coherent Optical OFDM Systems" Proceedings of *Second International Conference On Innovative Trends In Electronics Engineering (ICITEE2)* organized by Department of ECE, Punjabi University, Patiala, India, November 2016.
6. **Gurpreet Kaur** and Gurmeet Kaur, "Linear and non-linear equalizer for chromatic dispersion compensation in coherent optical receiver" Proceedings of *International Conference on Recent Trends in Computing (ICRTC)*, organized by Department of Computer Engineering, Punjabi University, Patiala, August 30-31, 2016.
7. **Gurpreet Kaur** and Gurmeet Kaur, "Investigation of dispersion penalty at 10Gb/s link with different values of dispersion", Proceedings of *International Multi Track Conference*, pp. 142-145, June 3-4, 2014, Jalandhar.

(c) National Conference

1. **Gurpreet Kaur** and Gurmeet Kaur, "Performance enhancement of optical transmission system by compensating the dispersion using electronic compensation methods: A review", Proceedings of *Emerging Horizons in Science & Technology*, 14/CE-008, pp. 106, January 17-18, 2014, Fatehgarh Sahib.

(d) Communicated

1. **Gurpreet Kaur** and Gurmeet Kaur, "Performance enhancement of CP- and Pilot-free CO-OFDM by using Wilcoxon robust extreme learning machine with improved spectral efficiency", *IEEE Journal of Lightwave Technology*, *IEEE*, 2020.

#### 4. Achievements and Awards

- (a) Secured **first rank** in **M.Tech** from Punjabi University, Patiala.
- (b) Qualified **Gate 2012** in Electronics and Communication Engineering.
- (c) Attended "**The Bharat Scouts and Guides**", 15<sup>th</sup> National Jamboree, Haridwar (Uttaranchal) from 16<sup>th</sup> to 22<sup>nd</sup> Oct. 2005.
- (d) Attended "**The Bharat Scouts and Guides**" Punjab state rally held at Ludhiana from 18<sup>th</sup> to 20<sup>th</sup> Nov. 2005.

#### 5. Research Interests

- (a) Optical Communication systems
- (b) Transmission impairments in Optical Communication systems
- (c) CO-OFDM (Coherent optical- orthogonal frequency division multiplexing) systems
- (d) Artificial Neural Network applications in optical communication systems
- (e) Fuzzy Logic applications in optical communication systems

#### 6. Students Supervised/ Supervising

- (a) Balaji Singh and Ashish Kumar Rai, Spectrum Sensing Technique in Cognitive System, B.Tech. ECE, IIIT Una.

- (b) Nikhil Singh and Aditya Kumar, Data Transmission using Li-Fi, B.Tech. ECE, IIIT Una.

## 7. Short-term Courses/Workshops Attended/Organized

Name of the course	Period From	Period To	Institute/Sponsoring agency	Role
Women's Rights in Contemporary India: Issues and Challenges	21-June-2020	21-June-2020	IIIT Una	Coordinator
Online FDP on E-Content Development for IIIT Faculty	15-June-2020	19-June-2020	NITTTR Chennai	Participant
International Workshop on Big Data Analytics	28-May-2020	30-May-2020	SSN College of Engineering, Chennai	Participant
Certified Virtual Classroom Teacher	28-May-2020	30-May-2020	CSI Chennai, ACM Chennai, and IEEE Computer Society Madras	Participant
Develop, Deliver and Assess Online Courses with MOODLE Learning Management System	2-May-2020	3-May-2020	IIITDM, Kurnool and IIIT, Tiruchirapalli	Participant
Guest Lecture on Women's day	09-03-2020	09-03-2020	IIIT Una	Coordinator
Indian Foreign Policy Success Stories: 2014-2020	28-02-2020	28-02-2020	IIIT Una	Coordinator
NPTEL-SWAYAM Awareness Workshop	23-03-2019	23-03-2019	IIT Ropar/ NPTEL	Participant
Universal Human Values (UHV)	18-01-2019	20-01-2019	IIT Mandi/ AICTE	Participant
Clash of Electrogeeks (Organized)	11-04-2017	12-04-2017	NIT Jalandhar/ IEEE	Participant
Research-Teaching exchange excursion workshop	15-09-2016	24-09-2016	NIT Jalandhar	Participant

## 8. Academic Social Networking Site

- (a) Google Scholar: <https://scholar.google.com/citations?user=Qw1XxlQAAAAJ>
- (b) Research Gate: [https://www.researchgate.net/profile/Gurpreet\\_Kaur212](https://www.researchgate.net/profile/Gurpreet_Kaur212)