1. **Name:** Dr. Ranjit kaur
2. **Department:** Electronics & Communication Engg.
3. **Designation:** Professor & Head
   Dean, Directorate of International Affairs
4. **Institute:** Punjabi University, Patiala
5. **Address for correspondence (with Pincode):** Dr. Ranjit Kaur, Professor
   Elec. & Comm. Engg. Deptt.,
   Punjabi University, Patiala 147002
6. **Mobile Number:** 94630-16064
7. **E-mail Id:** ranjit24_ucoe@pbi.ac.in,
   ranjit24k@gmail.com

8. Educational and Professional Qualification:

Examination	Board/University	Year of Passing	Division
B.E.(ECE)	Punjabi Univ. Patiala	1997	First
M.Tech(Instrumentation & Control Engg.)	P.T.U. Jalandhar	2004	First **Gold Medallist**
Ph.D.(Elec. & Comm. Engg.)	Punjabi Univ. Patiala	2014	

9. Details of Experience:

Sr. No.	Designation	Name of Employer	Date of Joining		Major Job Responsibilities and Nature of Experience
			Joining	Leaving	
1.	Lecturer	S.L.I.E.T Longowal (Deemed-to-be-University)	21/1/1998	18/09/2006	Teaching and Research
2.	Reader	Punjabi University,Patiala	19/9/2006	18/9/2009	Teaching and Research
3.	Associate Professor	Punjabi University,Patiala	19/9/2009	14/3/2014	Teaching and Research
4.	Professor	Punjabi	15/3/2014	Till date	Teaching and Research

		University,Patiala			

10. Teaching Experience:25years

11. Field of Specialization:

      i.   Digital Signal Processing.

      ii.   Optimization Techniques

     iii.   Energy Harvesting

     iv.   Antenna Designing

12. Details of Achievements in Academic Field:

  i.   **Research Publications**:

      International. Journals   : **64**

      Int./National Conferences   : **31**

      Total Publications   : **95**

  ii.   **Number of PG student guided**   :**35**

 iii.   **Number of Ph.D. student guided**   :**04**

  iv.   **Number of Ph.D. student enrolled** :**08**

  v.   **Number of STC attended**   :**14**

  vi.   **Invited Talks**   :**10**

 vii.   **Conferences/ Workshop Organized:04**

13. Membership of Professional Bodies/Organizations:

➢ Life Member, *Indian Society for Technical Education (ISTE)*

➢ *Fellow member of Institute of Engineers (IE)*

➢ Member, IEEE

➢ Member International Association of Engineers (IAENG)

➢ Reviewer of Reputed International Journals, Viz. IEEE Transactions on Circuits and Systems II: Express Letter, IEEE Signal Processing Letters, International Journal of Electrical Power and Energy Systems (Elsevier), Journal of King Saud University - Computer and Information Sciences (Elsevier), WSEAS Transactions on Signal Processing, Circuits, Systems, and Signal Processing (Springer)

14.. Medals/Awards/Honours/Received:

Gold Medalist in M.Tech.

15. Paper Published in International Journals:

1. M. Kaur, R. Kaur and N. Singh, "A novel hybrid of chimp with cuckoo search algorithm for the optimal designing of digital infinite impulse response filter using high-level synthesis" Soft Computing (2022) 26:13843–13867 https://doi.org/10.1007/s00500-022-07410-3.

2. Preeti, Ranjit Kaur and Damanpreet Singh, "Dimension learning based chimp optimizer for energy efficient wireless sensor networks", in *Scientifc Reports*, (2022) 12:14968, https://doi.org/10.1038/s41598-022-18001-5

3. M. Kaur, R. Kaur, N. Singh, and G. Dhiman, "SChoA: an newly fusion of sine and cosine with chimp optimization algorithm for HLS of datapaths in digital filters and engineering applications," *Engineering with Computers*, pp. 1–29, 2021, doi: 10.1007/s00366-020-01233- 2 .

4. M. Kaur, R. Kaur, N. Singh, and G. Dhiman, "Enhanced chimp optimization algorithm for high level synthesis of digital flters," *Scientifc Reports*, 2022, https://doi.org/10.1038/s41598-022-24343-x

5. M. Kaur and R. Kaur, "High speed digital IIR filter using min-period retiming," *International Journal of Advanced Science and Technology*, vol. 29, no. 3, pp. 2817–2824, 2020. .

6. J. Singh, R. Kaur, and D. Singh, "Energy harvesting in wireless sensor networks: A taxonomic survey," International Journal of Energy Research, Wiley, vol. 45(1), pp. 118-140,2020.https://doi.org/10.1002/er.5816

7. J. Singh, R. Kaur, and D. Singh, "A survey and taxonomy on energy management schemes in wireless sensor networks," Journal of Systems Architecture, Elsevier, vol. 111, pp. 1-23, 2020.https://doi.org/10.1016/j.sysarc.2020.101782

8. M.S. Dhillon, V. Goyal, J. Singh and R. Kaur,"High gain textile antenna employing denim substrate for X-band applications," Far East Journal of Electronics and Communications, vol. 19(2), pp. 133-142, 2019.http://dx.doi.org/10.17654/EC019020143

9. A.K. Bhullar, R.Kaur and S. Sondhi, "Enhanced crow search algorithm for AVR optimization", *Soft Computing, Springer, 3, Jan,2020*. doi.org/10.1007/s00500-019-04640-w.

10. A.K. Bhullar, R.Kaur and S. Sondhi, "Optimization of Fractional Order Controllers for AVR System Using Distance and Levy Flight based Crow Search Algorithm", *IETE Journal of Research*, 30, June,2020. doi.org/10.1080/03772063.2020.1782779

11. Satinder Singh Mohar, Sonia Goyal and Ranjit Kaur, "Optimized Sensor Nodes Deployment in Wireless Sensor Network using Bat Algorithm," Wireless Personal Communication, Springer, vol. 116, no. 2, pp. 2835–2853, 2021. https://doi.org/10.1007/s11277-020-07823-z. Impact factor 1.671. Published online: 22 September 2020

12. Bhullar, Amrit Kaur, Kaur, Ranjit, and Sondhi, Swati. 'A Novel Fuzzy Based Weighted Aggregation Based Multi Objective Function for AVR Optimization', Journal of Intelligent Systems. 1 Jan. 2021 : 9413 – 9436. https://doi.org/10.3233/JIFS-201911.

13. Bhullar, AK, Kaur, R, Sondhi, S. "Modified neural network algorithm based robust design of AVR system using the Kharitonov theorem" *Int J Intell Syst*. 2022; 37: 1339-1370. https://doi.org/10.1002/int.22672

14. R. Singh and R.Kaur,"A Novel Archimedes Optimization Algorithm with Levy Flight for Designing Microstrip Patch Antenna" Arabian Journal for Science and Engineering (2022) 47:3683–3706 https://doi.org/10.1007/s13369-021-06307-x

15. Satinder Singh Mohar, Sonia Goyal and Ranjit Kaur, "Localization of sensor nodes in wireless sensor networks using bat optimization algorithm with enhanced exploration and exploitation characteristics" The Journal of Supercomputing . https://doi.org/10.1007/s11227-022-04320-x.

16. R.Kaur, M.S.Patterh, J.S.Dhillon"Real Coded Genetic Algorithm for design of IIR Digital Filter with conflicting objectives" *Applied Mathematics & Information Sciences Appl. Math. Inf. Sci,*. vol. 8(5)*,* pp. 2635-2644, Sept. 2014.

17. R.Kaur, M.S.Patterh, J.S.Dhillon "A New Greedy Search Method for the Design of Digital IIR Filter"*Journal of King Saud University - Computer and Information Sciences* vol. 27, pp.278-287 .

18. R.Kaur, M.S.Patterh, J.S.Dhillon,"Design of Digital IIR Filter With Conflicting Objectives" Int. Review of Electrical Engineering (IREE), vol. 8 (2) , April 2013.

19. R.Kaur, M.S.Patterh, J.S.Dhillon," Design of Optimal L_1 Stable IIR Digital filter Using Real-Coded Genetic Algorithm*" Int. Journal of Computer Science, pp. 329-338, vol.39(4), Nov.2012.*

20. R.Kaur, M.S.Patterh, J.S.Dhillon, D.Singh "Heuristic Search Method for the Design of IIR filter" *WSEAS Trans. on Signal Process*., pp. 121-134, vol.8 (3), Aug. 2012.

21. R. Kaur and D. Singh,"Magnitude Approximation of IIR Digital Filter using Greedy Search Method" *WSEAS Trans. on Circuits and Systems*, pp. 284-290, vol.13, 2014.

22. R.Kaur, M.S.Patterh, J.S.Dhillon,"Digital IIR Filter Design using Real Coded Genetic Algorithm" *Int. Journal of Information Technology and Computer Science (IJITCS),* pp.27-35, vol. 5(7), 2013.

23. R.Kaur, M.S.Patterh, J.S.Dhillon,"Design of Optimal L_1 Stable IIR Digital filter Using Hybrid Optimization Algorithm" *Int. Journal of Computer Applications*, pp. 27-32 vol. 38(2), 2012.

24. R.Kaur, J.S.Dhillon, D.Singh "Multicriterion Optimization Approach to the Design of Stable Recursive Digital Filter" *International Journal of Engineering Science and Technolog*y Vol. 2(8), 2010, 3515-3524.

25. S.Kaur and R.Kaur," Least Square Linear Phase Nonrecursive Filter Design" *Int. Journal of Engineering Science and Technology(IJEST)*,pp.5845-5850, vol. 3(7), July 2011.

26. G.Kaur and R.Kaur," Design Of Recursive Digital Filters Using Multiobjective Genetic Algorithm" *Int. Journal of Engineering Science and Technology (IJEST)*, pp.5614-5621, vol. 3(7), July 2011.

27. R. Kaur and D Singh,"Education Versus Information Technology: An Overview"Int. Journal of Multidisciplinary Research vol.2(1), January 2012.

28. A. Kaur and R.Kaur," Design of FIR Filter Using Particle Swarm Optimization Algorithm for Audio Processing"*Int. Journal of Computer Science and Network (IJCSN),* pp.103-108, vol. 1(4), Aug. 2012.

29. Poonam and R.Kaur," Comparison of Different Design Techniques of Linear 2D FIR Filtering for Detection of Edges in Image" *Int. Journal of Electronics Communication and Computer Engineering,* pp.596-599, vol. 3(4), 2012.

30. J. Kaur and R.Kaur,"A Comparison Study of Power Spectrum Densities of Various Adaptive Algorithm Using Adaptive Filter" *Int. Journal of Engineering Research and Applications (IJERA),* pp.2335-2341, vol. 2(3), June 2012.

31. S.Kaur and R.Kaur,"Design Of Efficient Poly-Phase Filter Using TLBO For Up-Sampling Of Audio Signals," *Int. Journal of Computer Engineering & Applications,* pp.175-181, vol. 3(2), July.2013.

32. D.Kaur and R.Kaur,"A Design Of IIR Based Digital Hearing Aids Using Teaching-Learning-Based Optimization" *Int. Journal of Computer Engineering & Applications,* pp.182-190, vol. 3(2), July.2013.

33. N. Kumar and R. Kaur," Detection of Defects in Glass Using Edge Detection with Adaptive Histogram Equalization"*Int. Journal of Innovative Research in Computer and Communication Engineering*, pp.1321-1327, vol. 1(6), Aug.2013.

34. G. Singh and R. Kaur," Removal of EMG Interference from Electrocardiogram Using Back Propagation" *Int. Journal of Innovative Research in Computer and Communication Engineering,* pp.1300-1305, vol. 1(6), Aug.2013.

35. R.Kaur and D. Singh,"Particle Swarm Optimization Algorithm for Designing Optimal IIR Digital Filter*" Int. Journal of Emerging Technologies in Computational and Applied Sciences (IJETCAS),*pp.225-230, vol. *7*(*2*), *Feb*.201*4*.

36. R.Kaur and D. Singh,"Enhancing the Learning Process in Engineering Education: An Overview" Scholars Journal of Arts, Humanities and Social Sciences, pp. 94-96, vol. *2*(*1*), *Feb*.201*4*.

37. M. Aggarwal, R. Kaur and B. Kaur,"A Review of Denoising Filters in Image Restoration" *Int. Journal of current research and academic review,* pp. 83-89, vol. *2*(*3*), *Feb*.201*4*.

38. G. Chouhan and R. Kaur,"Denoising of the ECG Signal using Kohonen Neural Network*" Int. Journal of Emerging Technologies in Computational and Applied Sciences (IJETCAS),*pp.191-197, vol. 9(2), Aug. 2014.

39. G. Singh and R. Kaur,"Review Paper on Comparative study of various PAPR Reduction Techniques*" Int. Journal of Emerging Technologies in Computational and Applied Sciences (IJETCAS),*pp.315-318, vol. 9(3), Aug. 2014.

40. G. Singh and R. Kaur,"PAPR Reduction in OFDM using Reduced Complexity Selective Mapping Technique*" Int. Journal International Journal of Engineering Research & Technology (IJERT),*pp.236-239, vol. 3(9), Sept. 2014.

41. M. Mahajan and R. Kaur," A Comparative Study of Acoustic Echo Cancellation Algorithms in Sparse Impulse Response" *Int. Journal of Engineering Research and Applications (IJERA)*, pp. 60-63, vol. 5(1), Jan 2015.

42. M. Mahajan and R. Kaur," Study of Sparseness Controlled Adaptive Algorithms for Echo Cancellation" *Australian Journal of Information Technology and Communication (AJITC)*, pp. 19-25, vol. 2(2), 2015.

43. S. Garg and R. Kaur,"Modified Error Data Normalized Step Size algorithm Applied to Adaptive Noise Canceller *" Int. Journal of Emerging Technologies in Computational and Applied Sciences (IJETCAS),*pp.152-158, vol. 9(2), Aug. 2014.

44. N. Goyal and R. Kaur, "Blind Source Separation: A Comparative Study" *Australian Journal of Information Technology and Communication (AJITC)*, pp. 19-25, vol. 2(2), 2015.

45. M. Marken and R. Kaur, "Implementation and Analysis of LP Modes Over OWC Link using Different Pulse Shapes" *International Journal of Engineering Research & Technology (IJERT),)*,pp. 1261-1265, vol. 4(6), June 2015.

46. M. Goyal and R. Kaur, " 160 Gbps MDRZ-OTDM using Single and Cascaded EAM and MZM Reception " *International Journal of Engineering Research & Technology (IJERT),)*,pp. 1207-1210, vol. 4(6), June 2015.

47. R Jindal and R. Kaur, " Performance Evaluation of PWR Technique for a DWDM System using DCF and FBG " *International Journal of Engineering Research & Technology (IJERT),)*,pp. 1203-1206, vol. 4(6), June 2015.

48. *M. Singh and R. Kaur, "* Performance Analysis Of MIMO MC-CDMA Using Walsh Code with BPSK, QPSK and MSK Modulation on AWGN and Rayleigh Channel " *International Journal of Engineering Trends and Technology (IJETT),* pp. 231-236, vol. 24(5), June 2015.

49. M. K. Singla and R. Kaur, " Video Watermarking Secure With Thrice Watermarks By Using Algorithm K-Harris Feature Point Detection " *International Journal For Technological Research In Engineering*, pp. 3009-3011, vol. 2(12), Aug. 2015.

50. A. Sharma and R. Kaur, " Design of Optimum Linear Phase Low Pass FIR Filter Using Hybrid PSO and GSA Evolutionary Algorithm " *International Journal For Technological Research In Engineering*, pp. 3017-3020, vol. 2(12), Aug. 2015.

51. *N. Sidhu* and R. Kaur, *"*Design of FIR Digital Differentiator using Grey Wolf Optimization Technique*"International Journal of Emerging Technologies in Computational and Applied Sciences ,* pp. 231-236, vol. 1(14), Sept. 2015.

52. R. Kaur and D. Singh, "Particle Swarm Optimization Algorithm for Designing BP and BS IIR Digital Filter"*Research Cell : An International Journal of Engineering Sciences,* pp. 270-276, vol. 17, January 2016.

53. A. Kaur and R.Kaur, "Survey on FIR Digital Filter Design"*Research Cell : An International Journal of Engineering Sciences,* pp. 266-269, vol. 17, January 2016

54. A. Kaur and R.Kaur, "Comparison Of Simulink Based FOPID and PID Controller "*Research Cell : An International Journal of Engineering Sciences,* pp. 97-111, vol. 17, January 2016

55. N. Sharma and R. Kaur, "Review of Face Recognition Techniques"*International Journal of Advanced Research in Computer Science and Software Engineering"* pp. 29-37, vol. 6(7), July 2016.

56. A. Kaur and R. Kaur, "Optimal FIR Filter Design using GWO Algorithm" International Journal of Emerging Technologies in Computational and Applied Sciences (IJETCAS)" pp. 97-101, vol. 17(1), July 2016.

57. M. Kaur, R. Kaur and D. Singh, "Study of Data Flow Graph of Finite ImpulseResponse Digital Filter" *An International Journal of Engineering Sciences,* pp. 99-102, vol. 20, Nov. 2017.

58. S. Kaur, R. Kaur and D. Singh, "Study of Different Adaptive Filtering Algorithms for Reduction in Baseline Wander in ECG Signal" *An International Journal of Engineering Sciences,* pp. 141-144, vol. 20, Nov. 2017.

59. R. Kaur and D. Singh, "Real Coded Genetic Algorithm for the Design of Digital Differentiator" *An International Journal of Engineering Sciences,* pp. 145-149, vol. 20, Nov. 2017.

60. S. Goyal, R. Kaur and A. Wason, "A Survey: Generalized Multiprotocol Label Switching Over Optical Networks" *An International Journal of Engineering Sciences,* pp. 156-159, vol. 20, Nov. 2017.

61. R. Singh, R. Kaur and N. kaur, "Survey on Detection of various Retinal Manifestations of Eye" *An International Journal of Engineering Sciences,* pp. 177-183, vol. 20, Nov. 2017.

62. R. Kaur and Anjali, "Performance Analysis of OTDM Using Different Modulators and Modulation Formats at 160Gbps," *International Journal of Advanced Research in Electrical,Electronics and Instrumentation Engineering,* pp. 6031-6038, vol. 6(8), Aug. 2017.

63. S. Goyal, R. Kaur and A. Wason, "Investigation of Blocking Performance in GMPLS Networks" Journal of Optical Communication,2018

64. Preeti, Ranjit Kaur, Damanpreet Singh, "Parametric analysis for cluster formation using Genetic algorithm and Antlion optimization method in Wireless Sensor-Network", in GIS Science journal (GSJ/3176) volume 8, Issue-2, pp-142-1355, February, 2021 DOI:20.18001.GSJ.2021.V8I2.21.36609.

16.Paper Published in National Journals:

1. H. Kaur, A. Kumar, R. Kaur, D. Singh and S. Kumar," Investigation on optimization approach to digital filters" in Invertis Journal of Science & Technology Vol. 4. No.2, 2011; pp.65-71.

17. Paper presented in International Conference:

1. D. Singh and R. Kaur," Hybrid Optimization Technique for the Design of Digital Differentiator" *In 10th WSEAS International conference on "Circuits, Systems, Electronics, Control & Signal Processing*", Montreux, Switzerland from 29-31 December, 2011.

2. M. Kaur and R. Kaur, "Review of Retiming Based Digital Filter for Low Power Consumption," in *First International Conference on Recent Trends in Computing*, 2016, pp. 769–775.

3. M. Kaur, R. Kaur, and D. Singh, "Study of Data Flow Graph of Finite Impulse Response Digital Filter," in *Second International Conference on Innovative Trends in Electronics Engineering*, 2016, vol. 20, pp. 99–102.

4. M. Kaur and R. Kaur, "Synthesis of Digital FIR Filter Structures using Data Flow Graph," in *IEEE International Conference on Electrical, Electronics, Computers, Communication, Mechanical and Computing (EECCMC)*, 2018, pp. 194–196.

5. Satinder Singh Mohar, Sonia Goyal and Ranjit Kaur, "A Survey of Localization in Wireless Sensor Network Using Optimization Techniques," 4th International Conference on Computing Communication and Automation (ICCCA)*,IEEE,* Dec.14-15, 2018.

6. Satinder Singh Mohar, Sonia Goyal and RanjitKaur, "Evolutionary Algorithms for Deployment of Sensor Nodes in Wireless Sensor Networks: A Comprehensive Review," 2nd International Conference of Emerging Technologies (INCET), IEEE,May 21-23, 2021.

7. A.Kaur, R.Kaur and S. Sondhi, "CSA based PID Controller Design Technique for Optimizing Various Integral Errors", *IEEE,10th International Conference on Cloud Computing, Data Science & Engineering (Confluence), 29,Jan,20.*

8. A.Kaur, R.Kaur, S. Sondhi. " Design of FOPID Controller for Optimizing AVR System using Neural Network Algorithm", *INDICON-2020, IEEE XVII* India International Conference, 11th-13th DEC,2020 (INDICON 2020) .

9. A.Kaur, R.Kaur, S. Sondhi. " Design and Comparative Analysis of Optimized FOPID Controller using Neural Network Algorithm", ICIIS 2020, IEEE International Conference, 26th -28th,Nov,2020, IIT Ropar

10 A.Kaur, N. Saini, R. Kaur and A. Das, "Automatic classification of turmeric rhizomes using the external morphological characteristics" In 5th IEEE International conference on Advances in Computing, Communications and Informatics (ICACCI), 2016, pp. 1507–1510.

11. Jaskiran Kaur, Komalpreet Kaur, Arpit Manaktala, Dr. Ranjit Kaur and Ekambir Sidhu, *"Design and Performance Analysis of Autonomous Indoor Solar Energy Harvesting System", IEEE International Conference on Smart Technologies for Smart Nation, Bengaluru*, 2017.pp.509-513.

12 Jaskiran Kaur, Komalpreet Kaur, Arpit Manaktala, Dr. Ranjit Kaur and Ekambir Sidhu,"Paradigm and Performance Anatomization of Automatic Indoor Solar Energy Harvesting System exerting sensors*",IEEE International Conference on Smart Technologies for Smart Nation, Bengaluru, 2017, pp.565-568.*

13   A.Kaur, R.Kaur (2016). "Comparison of Simulink based FOPID and PID controller". *ICITEE-2016,* PUP. *November,2016*

18. Chapter Published in IEEE PRESS WILEY

1   Satinder Singh Mohar, Sonia Goyal and RanjitKaur, "Fruit Fly Optimization Algorithm for Intelligent IoT applications," Emerging trends and role of Fog, Edge and Pervasive Computing in Intelligent IoT driven applications,IEEE PRESS WILEY, pp. 284–309, 2020. https://doi.org/10.1002/9781119670087.ch16.

19. List of Papers Published in national conferences:

1. "Role of Women Engineers in Sustainable Development" in First National Convention of Women Engineers organized by The Institution of Engineers at Pune on 28th October 2001.

2. "Women in Technical Education : Challenges and Opportunities" in National Conference on Women in Development Processes organized by Department of EDP, SLIET Longowal on March 15-16,2004.

3. "Algorithmic issues in Wavelength Conversion of WDM Networks" in National Conference on Research & Practices in Current Areas of IT organized by Department of Computer Science & Engineering, SLIET Longowal on March 26-27, 2004.

4. "Reliable and Energy-Efficient Computations over wireless Multimedia Networking" in National Seminar on Cutting Edge Technology in Electronics & Communication organized by Departmrnt of Electronics & Communication Engineering, SLIET Longowal.

5. "Tree Wi-Fi Hotspots:A preview" in National conference on Advances in Computer Networks & Information Technology organized by Department of Computer Science & Engineering, Guru Jambheswar University of Science & Technology, Hisar on March 24-25,2009

6. D. Singh and R. Kaur, "Study of Evolutionary Optimization Techniques for Linear phase FIR Digital Filter Design" in National Conference on Computing Communication & Information Technology, CCIT-2010, Organized by Deptt. Of CSE, SLIET, Longowal, 28th-29th May, 2010

7. R. Kaur and D. Singh "Optimization Technique for the Design of Stable IIR Digital Filter" in National Conference on Computing Communication & Information Technology, CCIT-2010, Organized by Deptt. Of CSE, SLIET, Longowal, 28th-29th May, 2010

8. D. Singh and R. Kaur, "A Technique for Approximation of Magnitude Response in FIR Digital Filter" in National Conference on Computing Communication & Information Technology, CCIT-2010, Organized by Deptt. Of CSE, SLIET, Longowal, 28th-29th May, 2010

9. R. Kaur and D. Singh,"Genetic Algorithm Based Design Techniques for Digital Filters: A Perspective" in National Conference on Recent Advances in Computational Techniques in Electrical Engineering, RACTEE-2010, Organized by Deptt. Of EIE, SLIET, Longowal, 19th-20th March, 2010.

10. R. Kaur and D. Singh "Review of Recursive Digital Filter Design Techniques for Variable Sampling Rate" in National Conference on Recent Advances in Computational Techniques in Electrical Engineering, RACTEE-2010, Organized by Deptt. Of EIE, SLIET, Longowal, 19th-20th March, 2010.

11. R. Kaur and D. Singh "Role of Information Technology in Education" in National Conference on Recent Advances in Computational Techniques in Electrical Engineering, RACTEE-2010, Organized by Deptt. Of EIE, SLIET, Longowal, 19th-20th March, 2010.

12. R. Kaur and D. Singh "Review of Digital Filter Evolutionary Optimization Techniques for Digital Re-Sampling" in National Conference on Communication & Networking,(NCCN-10) Organized by Deptt. Of ECE, SLIET, Longowal, 12th-13th March, 2010.

13. S. Kaur and R. Kaur,"Review Of FIR Filter Design Techniques To Improve Eye Diagram" in National Conference on Communications & Networking, (NCCN-11) Organized by Deptt. Of ECE, SLIET, Longowal, 04-05 March, 2011.

14. R. Kaur,"Review of Evolutionary Optimization Techniques for the Design of Digital Differentiator" " in National Conference on Communications & Networking, (NCCN-11) Organized by Deptt. Of ECE, SLIET, Longowal, 04-05 March, 2011.

15. D. Singh and R. Kaur, "Revaluation of IIR filter Design Techniques For video Applications" in National Conference on Computational Techniques in Electrical Engineering Organized by Deptt. Of EIE, SLIET, Longowal, 25th-26th March, 2011.

16. G. Kaur and R. Kaur,"Review of Digital IIR filters Genetic Algorithm for Delay Equalizers " in National Conference on Computational Techniques in Electrical Engineering Organized by Deptt. Of EIE, SLIET, Longowal, 25th-26th March, 2011.

17. R. Kaur and D. Singh," Study of GA-Based Multiobjective Optimization Techniques for Digital IIR Filters" in National Conference on Computing Communication & Information Technology, CCIT-2010, Organized by Deptt. Of CSE, SLIET, Longowal, 28th-29th May, 2010.

18. S. Garg and R.Kaur," Comparative study of different algorithms for the design of adaptive filter for noise " in National conference on Advance in Engineering & technology(AET-2014), 29th March, 2014Organized by Maharishi Markaneshwar University, Sadopur, Ambala.

19. **Ph. D. Students Guided/Under guidance:**
   04 Guided & 08 are pursuing

20. M.Tech. Thesis Guided

1. An Efficient AlgorithmTo Solve Cocktail Party Problem
2. Design Of FIR Digital Differentiator Using Grey Wolf Optimization Technique
3. Least Squares Design of Finite Impulse Response Filters
4. Design of Recursive Digital Filters Using Multiobjective Genetic Algorithm
5. Design of Adaptive FIR Filter for System Identification using Particle Swarm Optimization
6. Investigation For The Design of FIR Filter Using Optimization Approach
7. Grey Wolf Optimization Algorithm For The Design of Finite Impulse Response Digital Filter
8. Design of Optimal Finite Impulse Response Digital Filter Using Evolutionary Algorithm
9. Performance Investigation on Optical Time Division Multiplexing For High Speed Applications
10. Dispersion Compensation Using Linearly Chirped FBG and DCF in 96 Channel Ultra DWDM system
11. Transmission of LP Modes of Light In Inter-Satellite Optical wireless Communication (ISOWC) System
12. Design of 2-D IIR Filter Using Real Coded Genetic Algorithm
13. Hybrid Sparseness Controlled Proportionate Normalized Algorithm For Adaptive Echo Cancellation
14. Denoising of ECG Signal Using Kohonen Neural Network
15. PAPR Reduction in OFDM Using Reduced Complexity Selective Mapping Technique
16. Modified Error Data Normalized Step Size Algorithm For Adaptive Noise Canceller
17. Design of FIR Filter Using Particle Swarm Optimization For Audio Processing

18. A Design of IIR Based Digital Hearing Aids Using Teaching-Learning Based Optimization

19. Removal of EMG Interference From Electrocardiogram Using Back Propagation

20. Detection of Defects in Glass Using Edge Detection With Adaptive Histogram Equalization

21. Two Dimensional FIR Filter Using Particle Swarm Optimization For Edge Detection

22. Video Water Marking Secure with Thrice Watermarks By Using Algorithm K-Harris Feature Point Detection

23. Design of EfficientPoly-phase Filter Using TLBO Up-Sampling of Audio Signals

24. Machine Vision Based Automatic Classification of Turmeric Rhizomes

25. Bi-Modal Biometric System Using Face And Voice As Biometric Features.

26. Performance Analysis of Multistage Cockroft-Walton Voltage Multiplier For Signal Rectification Applications.

27. Design, Fabrication and performance analysis of flexible microstrip yagi antenna for Wi-Max applications.

28. Performance analysis of OTDM system using different modulators and modulation formats at 160 Gbps.