



October, 2019 - March, 2020

ECE Department welcomes Prof. Balwinder Singh Dhaliwal in the department and congratulates him on being appointed as Associate Professor in the ECE department.



He did his B.E. in Electronics & Electrical Communication Engineering and M.Tech. in Electronics & Communication Engineering from Punjab Technical University Jalandhar; Ph.D. in Electronics & Communication Engineering from IKG Punjab Technical University Jalandhar. He has an experience of about 20 years in teaching engineering students.

He is member of several professional bodies like, IEEE, IE (I) and ISTE. He has published about 40 journal papers and 100 Conference Papers in addition to 05 books. His areas of interest are Antenna (Fractal, MIMO), ANN, Digital Signal Processing and Soft Computing.

ECE Department also welcomes Prof. Balwinder Raj in the department and congratulates him on being appointed as Associate Professor in the ECE department.



He did his B.E. in Electronics Engineering, M.Tech. in Microelectronics and Ph.D. in VLSI. He has long experience in teaching field. His areas of interest are Nanoelectronic Devices and Circuits, Nanotechnology and energy based devices, VLSI Design, VLSI & Embedded System Design, Modeling and Simulation, FPGA Based Design, Artificial Intelligence and Its Applications.

➤ **Training Programme:**

A. Long term Programme:

- a. ME Regular - 8 students are admitted to Batch 2019
- b. ME Modular - 3 students are admitted to Batch 2019
- c. Ph.D. Scholar Student - 2 students started their course under Dr. Rajesh Mehra and Dr. Amod Kumar respectively

B. Short Term Programme:

Topic	Date	Faculty
Industry Interaction	21-25 October, 2019	Dr. AMK / Dr. SKD
Biomedical Signal Processing	04-09 November, 2019	Dr. AMK / Dr.LM
ATAL Programme on Robotics	23-27 December, 2019	Dr. AMK / Dr.SSD
ATAL Programme on Artificial Intelligence	20-24 January, 2020	Dr. AMK / Dr.LM
Future Technologies	24-28 February, 2020	Dr. GS
Matlab and its Application (Cluster with EED)	21-25 October, 2019	Dr.GS / Dr.LM
5G and IoT (Cluster with CSE)	6-10 January, 2020	Dr. GS / Dr. MD
Two Weeks STC on 'Microcontrollers and Embedded Systems' jointly with Electrical Engineering Department at Punjabi University Patiala.	25/11/2019 to 06/12/2019	Dr. BSD
TEQIP-III Sponsored STC on 'Engineering Applications of Machine Learning and Artificial Intelligence' at Government College of Engineering and Tech., Jammu.	27.01.2020 to 31.01.2020	Dr. BSD
RF and Biomedical	10-14 February, 2020	Dr. AMK / Dr. SSP
Biomedical Applications jointly with Electronics Engineering Department at Punjabi University, Patiala (Pb)	24-28 February, 2020	Dr. AMK

B. ICT Programme:

Topic	Date	Faculty
5G Communication	18-22 November, 2019	Dr. GS
Digital System Design	20-24 January, 2020	Dr. KS
Artificial Neural Network and its App.	27-31 January, 2020	Dr. AMK

➤ **Research & Development: (Completed)**

- ME Pre-thesis – 13
- ME Final Thesis – 16

Papers Published in SCI Journal:

Sr.No.	Name of the Paper Published	Author (s) Name
1.	"Energy efficient compression sensing-based clustering framework for IoT-based heterogeneous WSN" Springer Journal of Telecommunication Systems, Vol.74, pp.311-330, March 2020.	Rachit Manchanda, Kanika Sharma
2.	Real time estimation and suppression of hand tremor for surgical robotic applications Microsystem Technologies, January 2020, DOI 10.1007/s00542-019-04736-1 (IF = 1.51)	Akhlesh Kumar. Sanjeev Kumar, Ajeet Kaushik, Amod Kumar & J. S. Saini
3.	Development of a Hybrid SIMBO-ANN Algorithm for Optimization of SRR parameters to enhance the performance of PIFA, Journal of Scientific & Industrial Research, Vol.78, Nov. 2019, pp.727- 732.	Garima Saini Dr. S SPattnaik
4.	Impact of High-k Gate dielectric and Work functions variation on Electrical Characteristics of VeSFET, Advances in Intelligent Systems and Computing (Springer book series)	Gurpurneet Kaur, Sandeep Singh Gill, Munish Rattan
5.	Carbon Nano Tube based sensor design for NEMS/MEMS applications, In Raj, B., Khosla, M., & Singh, A. (Ed.), Major Applications of Carbon Nanotube Field-Effect Transistors (CNTFET) (pp. 37-53). IGI Global. http://doi:10.4018/978-1-7998-1393-4.ch003	Rekha Devi, Sandeep Singh Gill
6.	Development of range free three dimensional localisation in wireless sensor networks, International Journal of Sensor Networks (IJSNET), Vol. 31, No. 1, 2019	Shashi Bhushan Kotwal, Sandeep Singh Gill, Kuldeepak Singh Saini
7.	"Conventional Machine Learning and Deep Learning Approach for Multi-Classification of Breast Cancer Histopathology Images—a Comparative Insight", Journal of Digital Imaging, 33, 632–654 (2020).Indexing: SCIE, Scopus.	Shallu Sharma & Rajesh Mehra
8.	"Effect of layer-wise fine-tuning in magnification-dependent classification of breast cancer histopathological image", The Visual Computer, 36, 1755–1769 (2020).	Shallu Sharma & Rajesh Mehra
9.	Agamreet Kaur, Rajesh Mehra, Amit Saini "Hetero-Dielectric oxide engineering on dopingless gate all around nanowire MOSFET with Schottky contact source/drain" AEU - International Journal of Electronics and Communications, Volume 111, Nov. 2019, 152888.	Agamreet Kaur, Rajesh Mehra, Amit Saini
10.	"Implications of Pooling Strategies in Convolutional Neural Networks: A Deep Insight", Foundations of Computing and Decision Sciences, 44(3), 303-330 (2019).	Sharma, S., Mehra, R.
11.	H-Best Particle Swarm Optimization Based Localization Algorithm for Wireless Sensor Network "International Journal of Engineering and Advanced Technology (IJEAT), Volume-9 Issue-1, pp-2769-2778 October 2019	Yadevendra Kamal, Kanika Sharma
12.	Chain Based Routing Algorithm using Hybrid Optimization for Wireless Sensor network, "International Journal of Scientific and Technology Research , Volume 8, Issue 11, November 2019	Rohini, Kanika Sharma
13.	"Dynamic Multilevel Priority Packet Scheduling Using Hybrid Seec", International Journal of Scientific and Technology research, Vol.8, Issue 11, Nov.2019,pp:1149-1154.	Sonam Gupta, Kanika Sharma
14.	"Routing Algorithm using Fuzzy Logic Based Clustering with Mobile sink for wireless sensor network", International Journal of Recent Technology and Engineering, ISSN:2277-3878, vol.8, Issue 4, Nov.2019, pp. 4000-4005	Vinod, Kanika Sharma
15.	Multipolarised Near Field RFID Antenna for Mobile Devices, International Journal of Electronics and Engineering, Vol. 11, Issue 2, pp. 41-50, June – Dec 2019, ISSN 0973-7383	Gaurav Gupta, Garima Saini
16.	Various Techniques of Interference Management in Heterogeneous Network : A Review, International Journal of Scientific Research in Science and Technology ,Vol. 6, Issue 3, pp. 310-328, ISSN 2395-6011	Baljot Kaur, Garima Saini

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17.	Design and Performance Analysis of Application Specific Integrated Circuit for Internet of Things Application, Sensor Letter ASP, Vol.18, PP. 31-38, Jan 2020	Vivek Pogra, S K ishvakarma, Balwinder Raj
18.	Vertical Tunnel FET : Design Optimization with Introduced SiGe Layers”, National Conference on Biomedical Engineering Dept. of ECE, NITTTTR Chandigarh, 22-24 Jan 2020.	Shailendra Singh Balwinder Raj
19.	Whale Optimization Algorithm for Performance Improvement of Silicon-On-Insulator FinFET, International Journal of Artificial Intelligence (Scopus), Volume 18, Number 1, March 2020	Gurpuneet Kaur, Sandeep Singh Gill, Munish Rattan
20.	“Synergy of Bis(Sulfanylidene)Tungsten and Spiro-Ometad for an Efficient Perovskite Solar Cell”, International Journal of Engineering and Advanced Technology (IJEAT),Volume-9 Issue-1, pp.4011-4016, October 2019.	Srishtee Chaudhary, Rajesh Mehra
21.	“Implications of Pooling Strategies in Convolutional Neural Networks: A Deep Insight”, Foundations of Computing and Decision Sciences, 44(3), 303-330 (2019).	Sharma, S., Mehra, R.
22.	“Comparative Evaluation of Tin Perovskite based Solar Cell” Trends in Opto-Electro & Optical Communication, Volume 9, No. 3, pp. 15 - 18, 2019.	Chandni Devi, Rajesh Mehra
23.	“Face Spoofing Detection using Enhanced Local Binary Pattern”, Scopus Indexed International Journal of Engineering and Advanced Technology, Vol. 9, No. 2, pp. 3365-3371, December 2019.	Karuna Grover, Rajesh Mehra
24.	"ConvolutionalNeuralNetworksBasedSceneRecognitionUsingSignificantFeatureApproach",InternationaljournalofInnovativeTechnologyandExploring Engineering (IJITEE),Vol.9,Issue3,pp.1705-1711,January2020.	PriyaSingla, Rajesh Mehra

Papers Published/Presented at Important Conferences/Seminars

International

Sr. No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author(s) Name
1.	A review on different Cluster head selection methods for improving the lifetime of wireless sensor network in International conference on Electrical, Electronics, Computer Science and Information Technology on 2ndJan. 2020 at Ernakulam, India	Vinod, Kanika Sharma
2.	“Optimization of Hybrid Fractal Antenna Using Curve Fitting and GA Approach for RF Energy Harvesting Application,” IEEE Indian Conference on Antennas and Propagation (InCAP), 19-22 Dec. 2019, Ahmedabad, India, DOI: 10.1109/InCAP47789.2019.9134573	Balwinder S. Dhaliwal, Amritpal Kaur, Suman Pattnaik, and Shyam S. Pattnaik,
3.	Impact of High-k Gate Dielectric and Workfunction Variation on Electrical Characteristics of VeSFET, AMLTA2020, Manipal University, Jaipur, February 13-15, 2020	Gurpuneet Kaur, Sandeep Singh Gill, Munish Rattan
4.	“Review on Full Protection Covers for Parked Car at Remote Stations” IEEE International Conference on Signal Processing, Computing and Control, pp. 24-29, October 2019.	Kirti Masown, Rajesh Mehra
5.	“Performance Enhancement of Data centers by using low power and high speed CNTFET based SRAM Cell” IEEE International Conference Image Information Processing, pp.459-462, November 2019.	Chauhan R, Mehra R
6.	“Current Perspectives and Advancements of Perovskite Photovoltaic Cells” Springer International Conference on Advanced Computing and Intelligent Engineering, pp. 83 92, March 2020	Chandni Devi, Rajesh Mehra

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7.	"Performance Investigation of CH ₃ NH ₃ SnI ₃ Solar Cell with HTM of CuSbS ₂ " Symposium on NanoGe Fall Meeting, Berlin, Germany, November 2019.	Chandni Devi, Rajesh Mehra
8.	"H-Best Particle Swarm Optimization Based Localization Algorithm for Wireless Sensor Network "International Journal of Engineering and Advanced Technology (IJEAT), Volume-9 Issue-1, pp-2769-2778, October 2019.	Yadevendra Kamal, Kanika Sharma,
9.	"Various Techniques of Interference Management in Heterogeneous Networks: A Review", International Journal of Scientific Research in Science & Technology , Vol. 6, Issue 3, pp. 310-328,ISSN 2395-6011.	Baljot Kaur, Garima Saini,
10.	"Multipolarised Near Field RFID Antenna for Mobile Devices", International Journal of Electronics and Engineering, Vol. 11, Issue 2, pp. 41-50, June – July 2019, ISSN 0973-7383.	Gaurav Gupta, Garima Saini,
11.	"Optimization of Hybrid Fractal Antenna Using Curve Fitting and GA Approach for RF Energy Harvesting Application," IEEE Indian Conference on Antennas and Propagation (InCAP), 19-22 Dec. 2019, Ahmedabad, India, DOI: 10.1109/InCAP47789.2019.9134573	Balwinder S. Dhaliwal, Amritpal Kaur, Suman Pattnaik, and Shyam S. Pattnaik,
12.	"Impact of High-k Gate Dielectric and Workfunction Variation" on Electrical Characteristics of VeSFET, AMLTA2020, Manipal University, Jaipur, February 13-15, 2020	Gurpurneet Kaur, Sandeep Singh Gill, Munish Rattan
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15.	"Current Perspectives and Advancements of Perovskite Photovoltaic Cells" Springer International Conference on Advanced Computing and Intelligent Engineering, pp. 83-92, March 2020	Chandni Devi, Rajesh Mehra
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19.	"Multipolarised Near Field RFID Antenna for Mobile Devices", International Journal of Electronics and Engineering, Vol. 11, Issue 2, pp. 41-50, June – July 2019, ISSN 0973-7383.	Gaurav Gupta, Garima Saini,

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