Profile Page

Name	:	Dr Mamta Khosla
Designation	:	Professor
Department	:	Electronics and Comm. Engg.
Qualification	:	PhD Electronics & Communication Engineering (NIT Jalandhar) M Tech Electronics & Communication Engineering (GNEC Ludhiana) B Tech Electronics & Communication Engineering (REC Kurukshetra)
Address	:	AA-4 NITJ Campus Jalandhar, Punjab - 144011
Email	:	khoslam@nitj.ac.in

Research Interests :

1. Digital Systems Design
2. Soft Computing
3. Nano scale Semiconductor Devices

Journal Publications :

Year	Journal	Publication
2022	Materials Science in Semiconductor Processing 145 (2022): 106643.	Chawla, Tulika, Mamta Khosla, and Balwinder Raj. "Extended Gate to source overlap Heterojunction Vertical TFET: Design, analysis, and optimization with process parameter variations."
2021	Applied Physics A 127 (1), 1-7	S Singh, M Khosla, G Wadhwa, B Raj, Design and analysis of double-gate junctionless vertical TFET for gas sensing applications
2021	Silicon (2021): 1-9.	Mittal, Mohit, Mamta Khosla, and Tulika Chawla. "Design and Performance Analysis of Delta-Doped Hetro-Dielectric GeOI Vertical TFET."
2021	Microelectronics Journal 105125	T.Chawla, M.Khosla and B.Raj, “Design and simulation of Triple metal Double-gate Germanium on Insulator Vertical Tunnel Field Effect Transistor”.
2020	IEEE VLSI Circuits and systems Letter, vol.6, no.3, (2020)(13-25)	T.Chawla, M.Khosla and B.Raj, “Optimization of Double-gate Dual material GeOI-Vertical TFET for VLSI Circuit Design”.
2020	Spin 10 (04), 2050027	Comparative Analysis of Spintronic Memories for Low Power on-chip Caches I Singh, B Raj, M Khosla, BK Kaushik
2020	Silicon, 1-10	RP Singh, M Khosla, I Saini, N Kumar, "Design and Analysis of IGZO Based Junctionless Thin Film Transistor Using SOI Technology"

2020	Materials Today: Proceedings 28, 1985-1989	H Kaur, DKK Randhawa, M Khosla, RK Sarin, "First principles study of sarin nerve gas adsorption on graphene nanoribbon with single molecule resolution"
2019	Modern Physics Letters B (2019): 1950144	Sharma, Sanjeev Kumar, Balwinder Raj, and Mamta Khosla. "Enhanced photosensitivity of highly spectrum selective cylindrical gate I n 1? x G ax A s nanowire MOSFET photodetector.
2019	Microelectronics Journal 85 (2019): 17-24.	Singh, Amandeep, Mamta Khosla, and Balwinder Raj. "Design and analysis of dynamically configurable electrostatic doped carbon nanotube tunnel FET.
2019	Journal of Computational Electronics 18 (3), 856-863	S Bala, M Khosla, "Design and performance analysis of low-power SRAM based on electrostatically doped tunnel CNTFETs"
2019	Wireless Personal Communications 108 (2), 1131-1143	Hybrid Type-2 Fuzzy Based Channel Estimation for MIMO-OFDM System with Doppler Offset Influences H Kaur, M Khosla, RK Sarin
2018	International Journal of Communication Systems31.3	Kaur, Harmandar, Mamta Khosla, and R. K. Sarin. "Hybrid channel estimation for MIMO relay systems with Doppler offset influences."
2018	Journal of Semiconductors, Volume 39, Issue 4, Article Number: 044001 (In Press)	Bala, Shashi, and Mamta Khosla. "Design and simulation of nanoscale double-gate TFET/tunnel CNTFET."
2018	Australasian physical & engineering sciences in medicine 41.3 (757-772)	Sharma, Anurag, Arun Khosla, Mamta Khosla, and Yogeswara Rao. "Fast and Accurate Diagnosis of Autism (FADA):a novel hierarchical fuzzy system based autism detection tool.
2018	Journal of Nanoelectronics and Optoelectronics 13.10 (1473-1477)	Sharma, Sanjeev Kumar, Jeetendra Singh, Balwinder Raj, and Mamta Khosla. "Analysis of Barrier Layer Thickness on Performance of In1–x Ga x As Based Gate Stack Cylindrical Gate Nanowire MOSFET.
2018	Journal of Nanoelectronics and Optoelectronics 13.3 (2018): 324-330	Bala, Shashi, and Mamta Khosla. "Comparative Study and Analysis of CNTFET and Tunnel CNTFET.
2018	Superlattices and Microstructures 124 (2018): 160-167	Bala, Shashi, and Mamta Khosla. "Design and analysis of electrostatic doped tunnel CNTFET for various process parameters variation.
2018	Journal of Computational Electronics 17.4 (2018): 1528-1535	Bala, Shashi, and Mamta Khosla. "Electrostatically doped tunnel CNTFET model for low-power VLSI circuit design.
2018	AEU-International Journal of Electronics and Communications 91 (2018): 55-65.	Singh, Parulpreet, Arun Khosla, Anil Kumar, and Mamta Khosla. "Optimized localization of target nodes using single mobile anchor node in wireless sensor network.
2018	Telecommunication Systems (2018): 1-15	Singh, Parulpreet, Arun Khosla, Anil Kumar, and Mamta Khosla. "Computational intelligence based localization of moving target nodes using single anchor node in wireless sensor networks.
2018	International Journal of Learning and Change 10, no. 3 (2018): 259-277	Sharma, Anurag, Arun Khosla, Mamta Khosla, and M. Yogeswara Rao. "Efficacy of an Android-based game intervention in the enhancement of face recognition skills for children with autism.
2018	International Journal of Communication Systems 31.17 (2018)	Kaur, Harmandar, Mamta Khosla, and R. K. Sarin. "Interval type?2 fuzzy Kalman filter aided individual channel estimation in MIMO relay systems.
2018	Sensor Lett 16 (10), 798-805	K Anuradha, S Jeetendra, R Balwinder, M Khosla, "Design and performance analysis of nano-scale memristor-based nonvolatile static random access memory"
2018	International Journal of Communication Systems31.3	Kaur, Harmandar, Mamta Khosla, and R. K. Sarin. "Hybrid channel estimation for MIMO relay systems with Doppler offset influences."
2017	Advances in Autism 3.2 (2017): 76-86	Sharma, Anurag, Arun Khosla, and Mamta Khosla. "Skin conductance response patterns of face processing in children with autism spectrum disorder."

2017	AEU-International Journal of Electronics and Communications 82 (2017): 543-552.	Singh, Parulpreet, Arun Khosla, Anil Kumar, and Mamta Khosla "3D localization of moving target nodes using single anchor node in anisotropic wireless sensor networks."
2017	INTERNATIONAL JOURNAL OF GRID AND DISTRIBUTED COMPUTING 10.10 (2017): 33-43.	Singh, Parulpreet, Arun Khosla, Anil Kumar, and Mamta Khosla "A Novel Approach for Localization of Moving Target Nodes in Wireless Sensor Networks. "
2017	Journal of Materials Science: Materials in Electronics, vol.28 pp. 1762-1768	Amandeep Singh, Mamta Khosla and Balwinder Raj, "Analysis of Electrostatic Doped Schottky Barrier Carbon Nanotube FET for Low Power Applications"
2017	AEU-International Journal of Electronics and Communications, vol.80 pp.68-72	Amandeep Singh, Mamta Khosla and Balwinder Raj, "Design and Analysis of Electrostatic Doped Schottky Barrier Carbon Nanotube FET based Low Power SRAM"
2017	Journal of Nanoelectronics and Optoelectronics 12 (2), 171-176	SK Sharma, B Raj, M Khosla, "Subthreshold performance of in 1–x Ga x as based dual metal with gate stack cylindrical/surrounding gate nanowire MOSFET for low power analog application"
2017	International Journal of Current Engineering and Scientific Research, IJCESR 4 (74-80))	P Singh, A Khosla, A Kumar, M Khosla, "Wireless sensor networks localization and its location optimization using bio inspired localization algorithms: a survey"
2016	Journal of Semiconductors 37.10 (2016): 104001-9.	Singh, Amandeep, Mamta Khosla, and Balwinder Raj. "Compact model for ballistic single wall CNTFET under quantum capacitance limit."
2016	World Academy of Science, Engineering and Technology, International Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering 9, no. 7 (2016): 711-715.	Vaghela, Hardik, Mamta Khosla, and Balwindar Raj. "Ambipolar Effect Free Double Gate PN Diode Based Tunnel FET."
2016	Journal of Semiconductors 37, no. 7 (2016): 74001-74006.	Singh, Amandeep, Dinesh Kumar Saini, Dinesh Agarwal, Sajal Aggarwal, Mamta Khosla, and Balwinder Raj. "Modeling and simulation of carbon nanotube field effect transistor and its circuit application."
2016	Journal of Nanoelectronics and Optoelectronics, vol.11 pp.388-393	Amandeep Singh, Mamta Khosla, and Balwinder Raj, "Comparative Analysis of Carbon Nanotube Field Effect Transistor and Nanowire Transistor for Low Power Circuit Design"
2016	Journal of Electronic Materials, vol.45 pp. 5381-5390	Amandeep Singh, Mamta Khosla and Balwinder Raj, "Circuit compatible model for Electrostatic Doped Schottky Barrier CNTFET"
2016	Journal of Nanoelectronics and Optoelectronics, vol.12 pp.171-176	Sanjeev Kumar Sharma, Balwinder Raj, and Mamta Khosla, "Subthreshold Performance of In1-xGaxAs based Dual Metal Gate Stack Cylindrical/Surrounding Gate Nanowire MOSFET for Low Power Analog Applications"
2016	Microelectronics Journal, vol.53 pp.65-82	Sanjeev Kumar Sharma, Balwinder Raj, and Mamta Khosla, "A Gaussian approach for analytical subthreshold current model of cylindrical nanowire FET with quantum mechanical effects"
2014	International Journal of Bio-Inspired Computation-Inderscience,International Journal of Swarm Intelligence 1.2 (2014): 156-178.Vol. 2, Issue 9, pages 156-178, April, 2014.	Mamta Khosla, R K Sarin and Moin Uddin "Evolutionary Design of Efficient Type-2 Fuzzy Models from Noisy Data using Hybrid PSO Model"
2014	International Journal of Swarm Intelligence, vol. 1, no. 2, pp.156-178, 2014.	Mamta Khosla, R. K. Sarin, and Moin Uddin. "Evolutionary design of efficient type-2 fuzzy models from noisy data using hybrid PSO model."

2013	International Journal of Engineering Research and Technology(IJERT) Volume 2, Issue 9, September 2013. ISSN: 2278-0181, pages 350-355.	Tarun Bali, Mamta Khosla, Naveed Anjum, “Placement in FPGA using Hybrid PSO-SA Technique”
2012	International Journal of Computational Intelligence Studies-Inderscience, Vol. 1, Issue 4, pages 349-367. ISSN Print:1755-4977, 2012	Mamta Khosla, R K Sarin and Moin Uddin, “A Simplified Architecture for Triangular Quasi Type-2 Fuzzy Logic Systems”
2011	International Journal of Artificial Intelligence and Expert Systems 2, no. 4 : 167-183.	Khosla, Mamta, Rakesh Kumar Sarin, and Moin Uddin. "Design of an analog CMOS based interval type-2 fuzzy logic controller chip.".
	Spin 10 (04), 2050027	Comparative Analysis of Spintronic Memories for Low Power on-chip Caches I Singh, B Raj, M Khosla, BK Kaushik

Conference Publications :

Year	Conference	Publication
2021	AIJR Proceedings (2021): 506-512.	Sen, Soumya, Ashish Raman, and Mamta Khosla. "A Literature Survey on Tunnel Field Effect Transistors."
2021	AIJR Proceedings (2021): 539-550.	Gupta, Rahul, Mamta Khosla, and Girish Wadhwa. "Design and Analysis of a Dual Material Triple Gate TFET with the Pocket Doping for the Performance Enhancement."
2021	AIJR Proceedings (2021): 530-538.	Sahu, Abhijeet, Mamta Khosla, Neetu Sood, and Girish Wadhwa. "Dual-Cavity Triple-Metal Gate-Underlap Dielectric-Modulated Charge-Plasma-based TFET for the Biomolecules Recognition."
2021	AIJR Proceedings (2021): 518-529.	Chawla, Tulika, Mamta Khosla, Balwinder Raj, and Sanjeev Kumar Sharma. "Novel Non-planar Structures of TFET Device to Enhance Performance."
2020	11th International Conference on Computing, Communication and Networking Technologies (ICCCNT), IEEE	Deepali, I Saini, M Khosla, Low Power 32-bit Synchronous and Reconfigurable ALU Design using Chain Structure
2018	2nd International Conference on Inventive Systems and Control (ICISC)203-214, IEEE	H Kaur, M Khosla, RK Sarin 2018 , Channel estimation in a MIMO relay system: Challenges & approaches channel estimation in MIMO relay system: A review
2018	In 2018 Second International Conference on Electronics, Communication and Aerospace Technology (ICECA), pp. 974-980. IEEE,	Kaur, Harmandar, Mamta Khosla, and R. K. Sarin. "Channel Estimation in MIMO-OFDM System
2018	In 2018 2nd International Conference on Inventive Systems and Control (ICISC), pp. 203-214	Kaur, Harmandar, Mamta Khosla, and R. K. Sarin. "Channel estimation in a MIMO relay system: Challenges & approaches channel estimation in MIMO relay system
2017	IEEE International Symposium on Nanoelectronic and Information Systems, accepted	Sanjeev Kumar Sharma, Balwinder Raj, Mamta Khosla and Jeetendra Singh, "Analysis of barrier layer thickness on performance of In1-xGaxAs based Gate Stack Cylindrical Gate Nanowire MOSFET"

2017	2016 IEEE 5th Global Conference on Consumer Electronics (GCCE), 1-4	Amandeep Singh, Mamta Khosla and Balwinder Raj, "CNTFET Modelling and Low Power SRAM Cell Design"
2017	In Computing and Communication Technologies for Smart Nation (IC3TSN), 2017 International Conference on, pp. 287-292.	Singh, Parulpreet, Arun Khosla, Anil Kumar, and Mamta Khosla. "Optimized localization by mobile anchors in Wireless Sensor Network by particle swarm optimization
2017	." In 2017 14th IEEE India Council International Conference (INDICON), pp. 1-6.	Verma, Akshay, Mamta Khosla, Tarique Rashid, and Arvind Kumar. "Grid and Fuzzy based Stable Energy-Efficient Clustering Algorithm for Heterogeneous Wireless Sensor Networks.
2016	InConsumer Electronics, 2016 IEEE 5th Global Conference on, pp. 1-4.	Singh, Amandeep, Mamta Khosla, and Balwinder Raj. "CNTFET modeling and low power SRAM cell design
2016	CPIE international conference	Shashi Bala, Mamta Khosla, "Performance Analysis of Double-Gate Tunnel FET for Various channel materialsm"
2015	Poster presentation in Indo-French Workshop on Emerging Trends in Electron Device Modeling , IISc, Bangalore, 30th March to 1st April 2015.	Amandeep Singh, Mamta Khosla, Balwinder Raj “Circuit Compatible Model for Ballistic Carbon Nanotube Field Effect Transistor”
2015	Poster present in Indo-French Workshop on Emerging Trends in Electron Device Modelling at IISc, Bangalore, 30th March to 1st April, 2015.	Sanjeev Kumar Sharma, Balwinder Raj, Mamta Khosla “Analysis of Transfer Characteristics and Quantum Capacitance for MOSFET and NWFET”
2015	2015 IEEE 4th Global Conference on Consumer Electronics (GCCE), 552-555	Amandeep Singh, Mamta Khosla and Balwinder Raj, "Comparative Analysis of Carbon Nanotube Field Effect Transistors"
2015	2015 IEEE 4th Global Conference on Consumer Electronics (GCCE), 556-559	Sanjeev Kumar Sharma, Balwinder Raj, and Mamta Khosla, "Performance enhancement of junctionless nanowire FET with laterally graded channel doping and high-K spacers"
2014	Poster presentation in INUP Familiarization Workshop on Compact Modeling at IISc Bangalore, 22-23 August, 2014.	Amandeep Singh, Mamta Khosla, Balwinder Raj “Performance Analysis of Carbon Nanotube Field Effect Transistor”
2014	Poster presentation in Industry-Academia Conclave at IIT Indore, 11-12 September, 2014.	Amandeep Singh, Mamta Khosla, Balwinder Raj “CNTFET for Industrial Applications”
2013	International Conference on Production and Industrial Engineering (CPIE-2013)	Mamta Khosla, Arun Khosla, R K Sarin and Moin Uddin, "Use of Graphical processing Unit for Real-Time Type-2 Fuzzy Model Identification"
2012	2012 IEEE Control and System Graduate Research Colloquium (ICSGRC 2012).	Sehrawat, Vijay Kumar, Amit Gupta, and Mamta Khosla. "FPGA Implementation of High Speed Pipelined JPEG 2000 Encoder."
2012	IEEE Control & System Graduate Research Colloquium, 136-141	Mamta Khosla, R K Sarin and Moin Uddin, "Implementation of Type-2 Interval Type Fuzzy Systems with Analog Modules"
2012	Procedia Technology, vol.6 pp.98-107	Amit Gupta, Vijay Kumar Sehrawat, and Mamta Khosla, "FPGA based Real Time Human Hand Gesture Recognition System"
2012	IEEE International Conference on Communication Systems and Network Technologies, 259-264	Mamta Khosla, R K Sarin and Moin Uddin, "Identification of Type-2 Fuzzy Models for Time-Series Forecasting using Particle Swarm Optimization"
2011	2011 Annual IEEE India Conference ((INDICON), Hyderabad	Jalan, Anup, and Mamta Khosla. "Analysis of leakage power reduction techniques in digital circuits."

2011	India Conference (INDICON), 2011 Annual IEEE. IEEE, 2011.	Kumar, Vivek, and Mamta Khosla. "Design of a low power Delay Locked Loop based Clock and Data Recovery circuit."
2011	3rd International Conference on Electronics Computer Technology- ICECT, 239-245	Mamta Khosla, R K Sarin, Moin Uddin and Ajay Sharma, " Analog Realization of Fuzzifier for IT2 Fuzzy Processor"
2010	International Conference on Biomedical Engineering and assistive Technologies	Khosla, Mamta, R. K. Sarin, and Moin Uddin. "Hardware Architecture for an Interval Type-2 Fuzzy Processor."
2010	International Conference on Biomedical Engineering and assistive Technologies	Amit Kumar Singh, Vivek Kumar, Mamta Khosla ?Characterization of CMOS Differential Amplifier with Active Load and Single-Ended Output"

Book/Chapter Publications :

Type	Title	Publisher	Authors	ISBN/ISSN No.	Year
Edited Book	Major Applications of Carbon Nanotube Field-Effect Transistors (CNTFET)	IGI Global USA	Balwinder Raj, Mamta Khosla and Amandeep Singh	ISBN13: 9781799813934|ISBN 10: 1799813932	2019
Book Chapter	CNTFETs: modelling and circuit design in Book "VLSI and Post-CMOS Electronics: Design, modelling and simulation" 1, 313	IET Digital Library	A Singh, M Khosla, B Raj	ISBN: 9781839530517 e-ISBN: 9781839530524	2019
Book Chapter	CNTFET-Based Memory Design in "Major Applications of Carbon Nanotube Field-Effect Transistors (CNTFET), 16-36	IGI Global USA	S Bala, M Khosla, R Kumar		2019
Book Chapter	Analysis of CNTFET for SRAM Cell Design." in Nanoscale Devices: Physics, Modeling, and Their Application	CRC Press, Tailor and Francis	Bala, Shashi, and Mamta Khosla	ISBN13:9781817998139 34	2018
Book Chapter	Computational Intelligence Techniques for localization in Static and Dynamic Wireless Sensor Networks- A Review in “Computational Intelligence in Sensor Networks" pp 25-54	Springer Berlin, Heidelberg	Singh, Parulpreet, Arun Khosla, Anil Kumar, and Mamta Khosla		2018
Book Chapter	Technological Tools and Interventions to Enhance Learning in Children with Autism	IGI Global USA	Anurag Sharma, Arun Khosla, Mamta Khosla and Yogeshwara Rao M		2017
Book Chapter	Realizing Type-2 Fuzzy Systems with Type-1 Fuzzy Systems	IGI Global USA	Mamta Khosla, R K Sarin, Moin Uddin, Satvir Singh and Arun Khosla		2012

Research Projects :

Role	Project Type	Title	Funding Agency	From	To	Amount	Status	Co-Investigator
Principal Investigator	Modernization	Modernization of Basic Electronics and Integrated Circuits Laboratory	MHRD	2001	2003	3.5 lacs	Completed	-
PI	Research	Investigations on Reconfigurable Computing Systems	MHRD	2004	2007	8 lacs	Completed	Dr Indu Saini
Co-cordinator		SMDP-II	MCIT Govt. of India	2005	2013	1.1 crore	Completed	Dr R K Sarin
	DST FIST	DST-FIST	DST	2014	2019	1.55 crore	Ongoing	Dr Arun Khosla, Dr Balwinder Raj
Principal Investigator	Research	SMDP C2SD	MeitY	2014	2021	166 Lacs	Ongoing	Dr Ashish Raman
Co-PI	R & D	FPGA based High Speed CCSDS Processor for Baseband Receiver	ISRO STIC	2020	2021	15.60 Lacs	Ongoing	Dr Ashish Raman

Events Organized :

Category	Type	Title	Venue	From	To	Designation
Workshop	International	Research-Teaching Exchange Excursion Workshop in collaboration with Technical University of Munich Germany	Dr B R Ambedkar NIT Jalandhar	15-Sep-2016	24-Sep-2016	Coordinator
Self Financed workshop	National	Electronics and Communication System Design Aspects	Dr B R Ambedkar NIT Jalandhar	25-May-2015	29-May-2015	Coordinator
TEQIP-II sponsored STC	National	Recent Trends in VLSI and Communication Systems	Dr B R Ambedkar NIT Jalandhar	17-Jun-2013	21-Jun-2013	Organiser
Workshop	National	Digital and Analog VLSI Design Flows	Dr B R Ambedkar NIT Jalandhar	29-Nov-2011	05-Dec-2011	Organiser
GIAN Program	International	GIAN program on Autism and Assisted Technologies	Dr B R Ambedkar NIT Jalandhar	December 10, 2018	December 14, 2018	Coordinator

	National	Curtain Raiser of Techniti, 2019	NITJ	03 May, 2019		Coordinator
Workshop	National	Data Science	NITJ	May 28, 2019	May 28, 2019	Coordinator
Expert talk by Ishwar Sahai, Managing Director Mectech Delhi	National	Entrepreneurship	NITJ	3 May,2019		Coordinator
Expert Talk by Dr Suresh Chand Jain, Dean Punjab University, Chandigarh	National		NITJ	3 May, 2019		Coordinator
Self Sponsored Short Terma course	National	"Research Trends in Integrated Circuits and Applications"	NIT Jalandhar	11 Januray, 2021	15 Januray, 2021	Coordinator
	National					
International Conference	International	Women Researchers in Electronics and Computing		22 April, 2021	24 April, 2021	Patron and Executive General Chair
	National					
STC	National	Gender Equality and Violence against Women during COVID-1	NIT Jalandhar	October 09, 2020	October 13, 2020	
Self Financed STC	National	Research Trends in VLSI for Communication Systems	NIT Jalandhar	23 November, 2021	27 November, 2021	Coordinator
Hackathon	National	HackNITJ 2019	NIT Jalandhar	21 September, 2019	22 September, 2019	Coordinator

PhD Supervised :

Scholar Name	Research Topic	Status	Year	Co-Supervisor
Shashi Bala	MODELING AND SIMULATION OF TUNNEL CNTFET FOR LOW POWER MEMORY APPLICATION	Completed	Oct, 2020	
Harmandar Kaur	Performance Evaluation and Enhancement by using Improvement Measures in MIMO-OFDM System	Completed	Nov 2019	Dr R K Sarin
Parulpreet	Optimized Localization in Dynamic WSNs	Completed	May, 2019	Dr Arun Khosla Dr Anil Rose
Anurag Sharma	Technological Interventions for Diagnosis and Learning in Children with Autism Spectrum Disorder	Completed	May, 2019	Dr Arun Khosla Dr Yogeswara Rao M
Saumya Sen	Nanoscale Devices (Broad Area)	Ongoing	2020	Dr Ashish Raman

Tulika Chawla	VLSI Design (Broad Area)	Ongoing	2019	DR Balwinder Raj
Inderjit Singh	Memory Design (Broad Area)	Ongoing	2018	DR Balwinder Raj
Amandeep Singh Rehal	Modeling of CNT FET and its Application for design of SRAM	Completed	2016	Dr Balwinder Raj
Sanjeev Kumar Sharma	Analysis of Nanowire FET and its application as low power sensor design	Completed	2016	Dr Balwinder Raj

PG Dissertation Guided :

Student Name	Dissertation Title	Status	Year	Co-Supervisor
Mohit Mittal	Design and Performance Analysis of Delta-doped Hetro-dielectric GeOI Vertical TFET	Completed	2021	
Rahul Gupta	Design and Analysis of Dual Material Triple Gate TFET and Its application as a label-free biomolecule detector	Completed	2021	
Shivam Kumar	Design and Analysis of 20 nm DG TiO2-IGZO based Junction less Thin Film Transistor	Completed	2021	Dr Indu Saini
Abhijeet Sahu	A Charge Plasma Based Label-Free Biomolecule Detector Using SiGeSource-Doped Double-Gate-Electrode Tunnel FET	Completed	2021	Dr Neetu Sood
Sreelakshmi Rajan	Optimization and VHDL implementation of error correction algorithms for a Reed-Solomon decoder	Completed	2021	
Prateek Tiwari	Design and Review of Hetero-Dielectric based Junctionless SOI MOSFET	Completed	2021	Dr Neetu Sood
Shubham Sharma	Design of High performance Dynamic Comparator with FINFET Technology	Completed	2021	
Rahul Prakash Singh	Design and Analysis of SOI based IGZO Junctionless Thin Film Transistor for low power Inverter application	Completed	2020	
Sonal	2. DESIGN AND ANALYSIS OF DOUBLE GATE JUNCTIONLESS VERTICAL TFET FOR GAS SENSING APPLICATIONS	Completed	2020	Dr Balwinder Raj
Deepali	3. Design of Low Power 32-bit Synchronous and Reconfigurable ALU Design using Chain Structure	Completed	2020	Dr Indu Saini
Venkat	Label Free Bio Sensor based on Organic Nanowire FET	Completed	2019	Dr Ashish Raman
Neha	Design and Analysis of Pantacene based thin Organic Film Transistor for Ammonia Gas Sensor	Completed	2019	Dr Balwinder Raj
Saurabh Kumar	Design and Analysis of Low power Organic Thin Film Transistor with Improved Electrical Parameters for DNA Applications	Completed	2018	Dr Arun Khosla
Shashank	Design and Simulation of MEMS based Piezoresistive Pressure Sensor for Abdominal and Thoracic Pressure Measurement	Completed	2018	Dr Arun Khosla
Yogesh	Design of MEMS based Thin Film Bulk Acoustic Wave Resonator for PCS Application	Completed	2018	Dr Arun Khosla
Anuradha	Design and Performance Analysis of Nanometer Memristor based non-volatile SRAM Cell	Completed	2018	Dr Balwinder Raj

Aman Shukla	Design and Analysis of Dual Metal Heterojunction based DG Tunnel FET	Completed	2018	Dr Balwinder Raj

Admin. Responsiblities :

Position Held	**Organization**	**From**	**To**
Head, Dept. of ECE	NIT Jal	02-02-2016	05-03-2017
Coordinator, Cultural Activities and creative arts	NIT Jalandhar	2015	Feb 2016
Co-coordinator, UTKANSH 2016	NIT Jalandhar		
Chairman, Women Grievances Cell	NIT Jalandhar	may 2011	Jan 2013
Co-Incharge, VLSI Design Laboratory	NIT Jalandhar	2008	2013
Professor-in-Charge of Basic Electronics Laboratory for more than 10 years	NIT Jalandhar		
Faculty Advisor Fine Arts	NIT Jalandhar	2007	2012
Faculty Coordinator, Technical Affairs	NITJ	05-05-2019	Feb, 2021
BOS, ECE Dept. Coordinator	NITJ	Feb 2019	till date
Coordinator, 3rd year, ECE BTech	NITJ	2015	till date
Chairman	Women Cell/ ICC	2019	2020
Member	Board of Governers, NIT Jalandhar		
Head	Dept of ECE	Feb, 2021	till date