RESUME

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[Areas of Research:- VLSI, Modern Devices, Nanoelectronic Circuits, Embedded System]

A. Patents /Research Projects/Publications

1. Patent titled as "***A system for wirelessly monitoring Water Level in Water Tank and Method Thereof***" **GRANTED** on 22/03/2024 (Grant No. 529897). This invention is based on IoT for direct deployment in domestic and commercial applications, comprises of ultrasonic sensor to transmit sound waves towards surface of water being stored within the tank and receives the reflected sound waves.

2. Patent titled as "***Multi use agricultural machine for seeding, ploughing and pesticide spraying***" **GRANTED** on 28/03/2024 (Design No. 371703-001). This is state of the art, low cost, portable and durable machine for seeding, ploughing and pesticide spraying developed for agriculture purposes and rural applications.

3. Patent titled as "***Graphene nanoribbon field effect transistor based operational transconductance amplifier with high slew rate for bio-signal***" **PUBLISHED** on 13/10/2023 (The Patent Office Journal No. 41/2023). A novel Graphene Nanoribbon Field Effect Transistor (GNRFET) based operational transconductance amplifier (OTA) with high slew rate for Bio-Signal is designed. A GNRFET's channel is constructed by a parallel combination of Graphene Nano Ribbons (GNR), just like a conventional Metal Oxide Semiconductor Field Effect Transistor (MOSFET).

4. Patent titled as "***Efficient, ultra low power instrumentation amplifier based on carbon nanotube field effect transistors***" **PUBLISHED** on 13/10/2023 (The Patent Office Journal No. 41/2023). A novel High Gain, Ultra Low Power Instrumentation Amplifier is proposed using Carbon Nanotube Field Effect Transistor which reduces power line interferences and

provide large CMRR and more gain. CNTFETs can have lower sensitivity to temperature changes compared to conventional transistors, which can contribute to more stable amplifier performance.

5. Patent titled as "***High gain, low power triple cascode operational transconductance amplifier using carbon nanotube field effect transistor***" **PUBLISHED** on 14/07/2023 (The Patent Office Journal No. 28/2023). A novel High Gain, Low Power Triple Cascode Operational Transconductance Amplifier (TCOTA) based on Carbon Nanotube Field Effect Transistor is proposed. A CNTFET's channel is constructed by a parallel combination of SWCNTs, just like a conventional MOSFET. The benefits of CNTFETs include one-dimensional ballistic charge carrier movement, high mobility, high driving current, and minimal power consumption. Further, the high voltage gain and low average power were achieved at 32 nm technology node.

6. Patent titled as "***Electromechanical System and Method for Information Compression"*** **FILED** with reference No E-2/602/2017-DEL.This is state of the art for information compression using both mechanical cum electronic methods which assist in compression and transfer of bulk data in minimum steps. Further work is under way to club this technology with GPU.

7. Patent titled as "***System and Method for Low cost Microscopy***" **FILED** with reference No E-2/554/2017-DEL.This is a low cost projection microscope developed for remote and rural applications where bulky and costly microscopes are not readily available.

8. Implemented a project of Rs 12 Lacs on VLSI design under MODROBS funded by AICTE at AFU.
9. Developed ***Research Laboratory*** funded by U.G.C. at BGSB University in 2016.
10. Published more than 100 papers in high quality journals/conferences/book chapters.
11. PhD Scholars (09): **Awarded = 01, Submitted= 02, At Final Stage = 03, Others = 03 PhD**.
12. M. Tech. Dissertations supervised:- **35**

B. International/ National Research Collaborations

1. **Dr. S. Choudhary**
   University of North Dakota
   U.S.A.

2. **Dr. A. Roy**
   CoE, University of Bisha
   K.S.A.

3. **Prof. M.M. Kabir**
   Dhaka University of Engineering and Technology
   Bangladesh

4. **Dr. M. S. Siddiqui**
   BHEL - Amorphous Silicon Solar Photovoltaic Cell Plant.
   India

5. **Dr. A. Choudhary**
   AR HealthCare Systems Pvt. Ltd.
   India

C. Administrative Responsibilities at JMI

1. **Nodal Officer** –B.Sc. Aeronautics from 22/07/2024 till date.
2. **PhD Admission Test Coordinator** in session 2024-25.
3. **Coordinator** for Admission test of **Residential Coaching Academy** in session 2024-25
4. **Deputy Coordinator (Admissions)** from 03/02/2022 to 15/11/2023.
5. **Deputy Nodal Officer**, National Academic Depository (NAD) Cell from 21/10/2020 to 30/10/2024.
6. Asstt. Nodal Officer, National Academic Depository (NAD) Cell from 16/02/2018 to 20/10/2020.
7. **Warden** & Development Incharge, MMA Jauhar Hall, JMI in 2019.
8. **Nominated Member of Joint Working Group** to implement MoU between JMI and Pawan Hans Ltd. to start B.Sc. (Aeronautics).
9. Asstt. Superintendent of Exams, F/oEngg. & Tech from 16/02/2018 to 19/12/2018.

10. Co-coordinator, F/oEngg. & Tech. for IQAC, NAAC, NIRF Preparations.

11. Sessional Test Coordinator (B.Tech./B.E./M.Tech.) from 05/09/2018.

12. Member -Faculty Committee from 07/07/2018.

13. Teacher Incharge-MOOCs/SWAYAM/NPTEL Courses from 14/01/2019.

14. Member Editorial Board in SPECTRONICS, Departmental Magazine, 2018.

15. **PhD Coordinator** (E & C Deptt.) in 2019.

16. Students Advisor-B. Tech. (E&C) from 08/10/2018.

D. Awards, Invited Talks & Recognitions

1. Delivered Invited Talk on "**How to do Quality Study in the era of Social Media**" at Mewat Engineering College, HWB, Haryana Government on 14/01/2025.
2. **Best Faculty Award-2025** from Centre of Advanced Research in Machine Intelligence & Data Science, New Delhi.
3. Delivered Invited Talk on "**Social Engineering and Ethics** ", Centre of Advanced Research in Machine Intelligence & Data Science, New Delhi on 02/01/2025.
4. **Best Paper Award** in Springer International Conference (ICIVC 2024) held on November 23-24,2024, NIT Agartala.
5. **Best Motivational and Career Counsellor Award 2022** by Mewat Engg College, HWB, Haryana Government for valuable services and guidance in research activities during 2021-22.
6. **Sir Syed Memorial Award-2021** for valuable services in popularizing education among downtrodden and needy students by **Science Aur Kainat Society of India**, New Delhi.
7. **GUEST Speaker** on Mechanical Engineering Department of Jamia Millia Islamia, New Delhi in collaboration with The Robotics Society (TRS) is organizing 2- weeks (16^{th} to 30^{th} June 2021).
8. **Resource Person** in **AICTE ATAL FDP** on Nano Electronics and RF Engineering conducted by conducted by Department of Electronics & Communication Engineering, SRM Institute of Science and Technology, Delhi-NCR Campus, Ghaziabad on 08/09/2021.

9. **Chaired** Seminar Presentation in **6th Faculty Induction Programme** organized by UGC-Human Resource Development Centre, Jamia Millia Islamia, New Delhi – 110025 on 18/11/2021.

10. Appointed as **Central Level Observer** by National Institute for Empowerment of Persons with Multiple Disabilities (Dept. Of Empowerment of Persons with Disabilities, (Divyangjan) MSJ&E, Govt of India) for November term End Exams 2021 at Jamia Millia Islamia.

11. **External Member** of Board of Studies, Department of Electronics and Communication Engineering, Shri Ramswaroop Memorial Group of Professional Colleges (SRMGPC) , Lucknow for the academic year 2021-22.

12. **Best Paper** Award in Springer International Conference at JMI in 2019.

13. DST, GoI & Texas Instruments presented Trophy in appreciation for fostering an ecosystem bridging government Industry and Academia in 2019.

8. Merit Award for Academic Achievements by Jauhar Academy, N. Delhi in 2018.

9. **Best Paper Award** in IEEE International Conference at AMU in 2017.

10. Certificate of Excellence for Phenomenal Skills by Aptron, N.E. Services, N. Delhi in 2017.

11. Letter of Appreciation from Mewat Engg College, HWB, Haryana Government in 2016.

12. **Merit Award** for research Paper by IAENG-IMECS Conference, Hong Kong in 2014.

E. Training & Placement

(a) Worked as **Training & Placement Officer** @ Mewat Engineering College (2012 to 2016).

(b) Organized Job Fair in which 22 Companies participated @ Mewat Engg College in 2014.

(c) Written a booklet on "Placement strategies for Engineering Students".

(d) Prepared Placement Brochure contains students profile @ Mewat Engg College in 2014.

F. Conference/Seminars Organized

(a) **Organizer** of "Vigilance Awareness Week "from 29/10/2018 to 03/11/2018 at JMI.

(b) Seminar organized on "Are you a potential Inventor?" in collaboration with NeoVictos Solutions Pvt. Ltd. New Delhi dated 11th September 2018.

(c) Seminar organized on "Higher Education Opportunity-Abroad in collaboration with IDP Education Ltd. New Delhi" dated 11th September 2018.

(d) One Week Workshop at BGSB University, Rajouri, 2016.

(e) Training program on VLSI Design, through NITTR, Chandigarh at Mewat Engg.College from 5th -9th October, 2015.

(f) Training program on Communication skills, through NITTR, Chandigarh at Mewat Engg. College from 7th -11th September, 2015.

(g) **Chief Organizer** of National Conference sponsored by DST @ Al Falah University in 2010.

(h) Organizer of National Conference on "Pollution & Its Control" at Al Falah in 2009.

G. Work Experience: -

1. ***Professor*** in Department of Electronics and Communication Engineering, Jamia Millia Islamia, New Delhi since 28th March 2020- till date.
2. ***Associate Professor*** in Department of Electronics and Communication Engineering, Jamia Millia Islamia, New Delhi since 28th March 2017 to 27th March 2020.
3. ***Assistant Professor*** in Department of Electronics and Communication Engineering, Baba Ghulam Shah Badshah University, Rajouri, J & K since 5th September 2016- to 27th March 2017.
4. ***Assistant Professor (Senior Scale)*** in Department of Electronics and Communication Engineering, Mewat Engineering College (Waqf), Mewat , Haryana under Haryana Waqf Board since 3rd August 2011- to 2nd September 2016.
5. ***Assistant Professor(Senior Scale)*** in Department of Electronics and Communication Engineering, Galgotias College of Engineering & Technology since 1th Feb.2011 to 2nd August 2011.
6. ***Assistant Professor*** in Department of Electronics and Communication Engineering, Al Falah School of Engineering & Technology since 29th August 2010 to 31stJanuary2011.
7. ***Lecturer*** in Department of Electronics and Communication Engineering, Al Falah School of Engineering & Technology since 23rdJuly 2007 to 28th August 2010.
8. ***Research and Development Engineer*** in M/s Copper Connections, New Delhi since 1stAugust 2006 to 22nd July 2007.
9. ***Guest Faculty*** in University Polytechnic (Evening), Jamia Millia Islamia New Delhi, from March 2007 to September 2016.

H. Administrative Work (Before joining JMI)

1. **Ph.D. Coordinator,** College of Engineering and Technology at BGSB University in 2016.
2. **Coordinator AQIS-AICTE Schemes** at BGSB University in 2016.
3. **Designed new syllabus** for M.Tech (VLSI Design & Embedded System) at BGSB University in 2016.
4. Nominated as **Member Secretary** of a committee Constituted by **ADGP (Law & Order) cum C.E.O., H.W.B** to prepare feasibility study report for establishment of 4 Girls Senior Secondary Schools in District Mewat, 2015.
5. **Dy. Superintendent** in Exams of M.D.U for B.TECH at MECW in May-June 2015.
6. Worked as Offg. HoD in ECE Deptt at Al Falah University since 14th June to 13th July 2010.
7. Appointed as **Supervisor** in the HTET Exam conducted by Haryana Government dated 15.11.2015.
8. Appointed as **Sector Supervisor** in 80-Firozpur Jhirka Segment, District Mewat by **Election Commission of India** in the **Parliamentary Election** in 2014.
9. **Dy. Superintendent** in Exams of M.D.U for M.Tech , MBA & B.TECH at AFSET in May 2008.
10. **Organizer** of National Science Day at AFSET on Feb. 27 ,2009.
11. **Member-Secretary** of the Board of Studies of ECE Deptt at AFSET.
12. **Designed new syllabus** for M.Tech (VLSI Design) at AFSET, M. D. University, Rohtak in 2009.
13. Member of Paper Setters, Moderators, Evaluators & Tabulator Committees at AFSET.
14. **National Science Day,** February 27,2009at AFSET.
15. **National Science Day,** February 26,2010at AFSET.
16. **Workshop** on Effective Classroom Instructions and Quality Research organized by Brown Hills College of Engg. And Technology at June 30, 2010.
17. **Coordinator** Earth Day Celebration April 22, 2010at AFSET.

I. International & National Research Publications (Total publications >100)

Latest key publications (Abroad):-

Published		
S. No	**Title with other details**	**Journals/Book Chapters / Reputed Conferences**
1	H R Ansari, M Nizamuddin, S. Manzoor, P. Mishra, "Performance analysis of doped zigzag graphene nanoribbon-based device for practical electronic applications using first principle approach" Volume 247, January 2025	Elsevier Journal "Computational Materials Science" **Netherlands** (**SCI**)**.**
2	MB Islam, M Nizamuddin, SS Islam, "Design, Simulation and Comparative Analysis of Two Stage Operational Amplifier Based on CNTFETs Using Indirect Feedback Frequency Compensation", Vol. 33, No. 09, 2450157 (2024)	Journal of Circuits, Systems and Computers **Singapore** (**SCI Expanded**)
3	F Hashmi, M Nizamuddin, et.al. "Graphene nanoribbon FET technology-based OTA for optimizing fast and energy-efficient electronics for IoT application: Next-generation circuit design" Volume19 Issue 6, November 2024.	Micro & Nano Letters (Wiley), **United Kingdom** (**SCI Expanded**)
4	M Bintul Islam, M Nizamuddin, SS Islam, "Design of carbon allotrope FET-based folded cascode operational transconductance amplifiers (FC-OTA)", pages 1-21, 20/1/2024.	International Journal of Electronics, Taylor & Francis, **London** (**SCI**)
5	S. Bashiruddin , M. Nizamuddin, P. Gupta Mohammad, Asrar Izhari, " The Potential Impact of Artificial Intelligence-Assisted Carbon-Nanotube Field-Effect-Transistor (CNT-FET)-Based Nano-Biosensors on The Diagnosis of The Disease Caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)"Volume 16, Issue 2 Pages 47-61, 22/7/2024	Egyptian Academic Journal of Biological Sciences. C, Physiology and Molecular Biology,**Cairo, Egypt.**
6	M Hassan, M Nizamuddin, R Mehra, "Design and simulation of power efficient carbon nanotube field effect transistor based active notch filters for nano electronic applications" Volume 16 Issue 5 Pages 3295-3302, June 2024.	International Journal of Information Technology, Springer Nature, **Singapore.**
	M Asif, P Kumar; M T Beg; M Nizamuddin; B K Kuanr, "Relaxation Dynamics of Sputtered Fe 80 Co 20 Thin Films on Different Substrates: Micromagnetic Validation" Vol 15, October 2024.	IEEE Magnetics Letters

7	IA Khan, A Rai, JP Keshari, M Nizamuddin, S Nayak, D Sharma,“ Design, simulation and comparative analysis of carbon nanotube based energy efficient priority encoders for nanoelectronic applications”, Volume 4, June 2023.	e-Prime-Advances in Electrical Engineering, Electronics and Energy, Elsevier.
8	F Hashmi, M Nizamuddin, W Ahmad, “A Novel Carbon Nanotube Field Effect Transistors Based Triple Cascode Operational Transconductance Amplifier: An Optimum Design” 18 (5), 534-546, 2023.	Journal of Nanoelectronics and Optoelectronics,**U.S.A.** (**SCI Expanded**)
9	Z Ali, M Nizamuddin, D Prasad, “Design, simulation and comparative analysis of CNTFET based Astable Multivibrator”, 115 (1), 33-47, 2023.	Analog Integrated Circuits and Signal Processing (**SCI Expanded**)
10	MA Farshori, M Nizamuddin, M Zulqarnain, V Sharma, “Fin Field-Effect Transistor (FinFET) Based Low Noise Low Power Chopper Stabilized Capacitively Coupled Amplifier for Biosignal Acquisition System”, 17 (7), 1068-1077,2023	Journal of Nanoelectronics and Optoelectronics, **U.S.A.** (**SCI Expanded**)
11	A. Choudhary, M. Nizamuddin, et al., EB-*F*V-MADM:energy budget based VKOR MADM approach realizing IEEE 802.15.6 WBAN standards in fuzzy environment, **01/06/2022.**	Journal of Ambient Intelligence and Humanized Computing: **Springer Nature Switzerland**(**SCI Expanded**)
12	A. Choudhary, M Nizamuddin, M.Zadoo, “ Body Node Coordinator Placement Algorithm for WBAN using Multi-Objective Swarm Optimization” Vol 22,No 3,**01/02/2022**.	**IEEE Sensors Journal**(**SCI Expanded**)
13	J. Qadri, M. Farshori, M.A. Khan, M Nizamuddin, I.Rahman, “ Study on the Effects of CNT and Nano-graphene in Clayey Soil of Aligarh City of Northern India”, **January 2022**	Book: Sustainable Cities and Resilience, Pages: 459-465 Springer, **Singapore**
14	S. Tayal, S. Bhattacharya, J Ajayan, L. R. Thoutam, D. Muchahary, S. Jadav, B. Krishan, M Nizamuddin, “ Gate-stack optimization of a vertically stacked nanosheet FET for digital/analog/RF applications”, **15/03/2022**.	Journal of Computational ElectronicsSpringer,**U.S.A.** (**SCI Expanded**)

15	A. Choudhary, M. Nizamuddin, et al. "Multi-objective optimization framework complying IEEE 802.15.6 communication standards for wireless body area networks", 28- 04-2020, Volume : 26 Issue : 6 Page : 4339-4362, **2020.**	Wireless Networks, Springer Nature **Switzerland** (**SCI Journal**)
16	A. Choudhary, M. Nizamuddin , "A Hybrid Fuzzy-Genetic Algorithm for Performance Optimization of Cyber Physical Wireless Body Area Networks",22, pages548–569, **2020**.	International Journal of Fuzzy Systems, **Taiwan**, (**SCI Expanded**)
17	A. Gupta, R. Mathur, M. Nizamuddin "Design, simulation and comparative analysis of a novel FinFET based astable multivibrator", Vol. 100, PP 163-171, **February 2019**.	AEU-International Journal of Electronics and Communications, **Elsevier**, (**SCI Expanded**)
18	A. Choudhary, M. Nizamuddin et.al., "Energy Budget Based Multiple Attribute Decision Making (EB-MADM) Algorithm for Cooperative Clustering in Wireless Body Area Networks", Vol. 14, Issue 1, PP 421–433, **January 2019.**	Journal of Electrical Engineering and Technology, **S. Korea**, (**SCI Expanded**)
19	M. Nizamuddin, Sajad A Loan, et.al., "Design, simulation and the comparative analysis of CNTFET based multistage operational amplifiers",Vol-12, **2017**.	Journal of Nanoelectronics and Optoelectronics, **U.S.A.** (**SCI**)
20	M. Nizamuddin, Sajad A Loan, et.al., "Design, simulation and comparative analysis of CNT based Cascode Operational Transconductance Amplifiers", Volume 26 , Number 39, 02 October **2015**.	Nanotechnology, IOP Publishing Ltd , **U.K.** (**SCI**)
21	Sajad A Loan, M. Nizamuddin et.al., "Design and Comparative Analysis of High Performance Carbon Nanotube-Based Operational Transconductance Amplifiers", Vol. 10, No. 3, **2015**.	NANO: World Scientific, **Hong Kong** (**SCI**)
22	M. Nizamuddin, Sajad A Loan, et.al., "Carbon Nanotube based three stage Operational Amplifiers, A simulation Study", Volume 3, Issue 2, 2016, Pages 449-453, **2015**.	Journal of Materials Today-Proceedings-**Elsevier.**

23	Sajad A Loan, M. Nizamuddinet.al., "Carbon Nanotube Based Operational Transconductance Amplifier: A Simulation Study", Pages 231-242, **2014**.	Springer Book Series on Transactions on Engineering Technologies, **Netherlands.**
24	Sajad A Loan, Humyra Sabir, Faisal Bashir, M. Nizamuddin et.al., "Simulation Study of a Novel High Performance Oxide Engineered Schottky Collector Bipolar Transistor", Pages 253-262,**2014**.	Springer Book Series on Transactions on Engineering Technologies, **Netherlands.**
25	Sajad A Loan, Faisal Bashir,Asim,Humyra Sabir, M. Rafat,M. Nizamuddin et.al., "Charge Plasma Based Bipolar Junction Transistor on Silicon on Insulator", Pages 219-229,**2014**.	Springer Book Series on Transactions on Engineering Technologies, **Netherlands.**
26	Sajad A Loan, M. Nizamuddinet.al., "High Performance Carbon Nanotube based Cascode Operational Transconductance Amplifiers", Vol I, July 2 - 4, **2014**.	World Congress on Engineering, London, **U.K.**
27	Sajad A Loan, M. Nizamuddinet.al., "Design of a Novel High Gain Carbon Nanotube based Operational Transconductance Amplifier, Vol II, March 12 - 14, **2014**".	International MultiConference of Engineers and Computer Scientists, **Hong Kong.**
28	Sajad A Loan, Faisal Bashir, M. Rafat, M. Nizamuddin et.al., "A Novel High Performance Nanoscaled Dual Oxide Doping Less Tunnel Field Effect Transistor", Vol I , July 2 - 4, **2014**.	World Congress on Engineering, London, **U.K.**
29	Faisal Bashir, Sajad A Loan, M. Nizamuddinet.al., "A Novel High Performance NanoscaledDopingless Lateral PNP Transistor on Silicon on Insulator", Vol II, March 12 - 14, **2014**.	International MultiConference of Engineers and Computer Scientists, **Hong Kong**.
30	Faisal Bashir, Sajad A Loan, M. Nizamuddinet.al., "High Performance Oxide Engineered Lateral Schottky Bipolar Transistor", Vol II, March 12 - 14, **2014**.	International MultiConference of Engineers and Computer Scientists, **Hong Kong.**
Under Review/Communicated/ing		
31	M. A. Farshori, M. Nizamuddin et.al., "Design and Simulation of FinFET based Biosignal Acquisition System.	Journal of Nanoelectronics and Optoelectronics, **U.S.A.** (**SCI**)

32	M. A. Farshori, M. Nizamuddin et.al., " Design and Simulation of advanced FinFET based Biosignal Acquisition System.	Arabian Journal for Science and Engineering, **K.S.A** (SCI)
33	H. R. Ansari ,M. Nizamuddin et.al., " Design of Two-Dimensional Materials based Optoelectronic Devices.	AEU-International Journal of Electronics and Communications, **Elsevier**, (**SCI Expanded**)
34	M. B. Islam, M. Nizamuddin et.al., " Design and Simulation of FinFET based Biosignal Acquisition System	Journal of Engineering Research, Kuwait University, (**SCI Expanded**)
35	F. Hashmi, M. Nizamuddin et.al., " Energy Efficient Telescopic Operational Transconductance Amplifier.	Nanotechnology, IOP Publishing Ltd , **U.K.** (**SCI**)
36	A. Zaidi, M. Nizamuddin et.al., "Design of Silicon-Carbon based smart SRAM at 7 nm technology node.	Journal of Electrical Engineering and Technology, **S. Korea**, (**SCI Expanded**)

J. Details of PhD Scholars

S.No	Name of PhD Scholar	Title of Thesis	Status
1	**Dr. Amit Choudhary**	Design and Analysis of Algorithms for Performance Enhancement of Wireless Sensor Networks	**Awarded**
2	**Ms. Mir Bintul Islam**	Fabrication and Performance Analysis of Nano-electronic Devices using Advanced Materials	**Submitted**
3	**Mr. Faraz Hashmi**	Design of Graphene based Nanoelectronic Circuits for Low Power Applications	**Submitted**
4	**Mr. M. A. Farshori**	Design and Performance Analysis of Nanoelectronic Circuits for Biomedical Applications	**Ready to submit**
5	**Ms. Zoya Ali**	Design and Performance Analysis of CNTFET based Analog Circuits	**Ready to submit**
6	**Mr. Hammadur Rub Ansari**	Design and Development of Two-Dimensional Materials based Optoelectronic Devices	**Ready to submit**
7	**Mr. Adil Zaidi**	Design and Implementation of Emerging Silicon-Carbon Nanoelectronic Circuits for Biomedical Devices	**Pursuing**
8	**Ms. Nasreen Bano**	Design and performance analysis of emerging nanoelectronic circuits for low power applications	**Pursuing**
9	**Mr. Mohd Bilal**	Design and Investigations on Optical Fibre Sensors	**Pursuing**

K. M.Tech. Dissertation Guided

S.No	Student's Name	Title of Dissertation	Year of completion
1	Sanaul Islam	Study of heterostructure with 2D insulator for spintronics based computational devices	July, 2024
2	Md Moqueet Ahmad	Design and Investigation of Symmetrical Dual Source U-shaped Gate Line Tunnel FET for Analysis of Hot Carrier Stress Degradation	July, 2024
3	Shahnaz Khatoon	Design and Performance Analysis of Emerging Nanoelectronic Circuit for Biomedical Applications	July, 2024
4	Devanshu Saxena	Versatile VM Universal Biquad Filter Employing OTAs and Its Application	August,2023
5	Mohd Samiullah	Brain-Tumor-Detection model using Convolutional Neural Network	August,2023
6	Nadeem Khan	Modelling and Simulation of Graphene based Current Mirror OTA for Biomedical Applications	August,2023
7	Rouf Rahman Sheikh	Design and Comparative analysis of Ambipolar Technologies based Emerging Nanoelectronic Devices	June, 2022
8	Md Wahidur Rahaman	Design and Comparative analysis of Design of FinFET based Analog Circuits at 7nm technology nodes	June, 2022
9	Nasreen Bano	Design & Simulation of Carbon based Nanoelectronic Circuits for Low Power Applications	June, 2022
10	Ankita	Design and Simulation of organic Solar Cells using P3HT: PCBM	March, 2022
11	Shamim Ahmed	Design of FinFET based Nanoelectronic Circuits	March, 2022
12	Nayim Ahamed	Design and Simulation of Perovskite solar cell	July, 2021
13	Salauddin Khan	Design and Simulation of Low Power Nanoelectronic Circuits	July, 2021
14	Mohammad Asif	Design of High-Performance Nonvolatile Magneto Resistive Random-Access Memory using Magnetic Tunnel Junction	June , 2020
15	M. Gufran	Design and Simulation of High Performance Magnetic Tunnel Junction using Spin Orbit Torque	June , 2020
16	A. Shahid	High Speed and Low Power Sensing Amplifier using MTJ and CMOS Hybrid Logic Circuits	June , 2020

17	Mohd Faizy	Optimization of Integrated Circuits using Convolutional Neural Network	September, 2019
18	Meraj Masroor, Ahmad	Design and Performance Evaluation of FinFET Based Electronic Circuit at 32 nm	September , 2019
19	M. A. Mansoori	Low-Power Three Stage Operational Amplifier	July, 2018
20	Ankita Sehgal	Design & Comparative analysis of CMOS & CNFET Based OTAs	May,2014
21	Md. Javed	Design & Simulation of CNFET Based OTAs at 45nm	May,2014
22	Mohd. Shamim	Design & optimization of OTA for ultra low power applications at 32nm.	May,2013
23	Sundar Singh	Folded cascade OTA Design for Area, Power & performance optimization.	May,2013
24	Deepak Kumar Sharma	Systematic design of3-stage Op-Amps for high frequency applications	May,2013
25	Md. Asrarul Haque	Design & Simulation of Cascode OTA for analog applications	May,2013
26	Amit Kumar	Modeling & Simulation of Op-Amp with CMFB	May,2013
27	Sunil Kumar	Low power analysis of multi-stage Op-Amp at 32nm	May,2013
28	Adil Zaidi	Design & Simulation of CNT based Inverter	July,2012
29	Ahsan Siddique	Nanoelectronics based Computer Designing	July,2012
30	Sajid Hussain	Modeling and Simulation of Ballistic Carbon Nanotube Field Effect Transistor with Quantum Transport Concept	June,2011
31	Suhail Habib	Modeling and Simulations of Metal-CNT Contacts and their I-V Characterization using VNL	June,2011
32	Priyanka Tyagi	Simulation of CRC-32 using Verilog HDL Language	June,2011
33	Neha Guliani	Evaluation of various noise reduction filters to different noises on digital images,	Aug,2010
34	Afreen.Z.Hussani	'Challenges & approach for a robust image watermarking algorithm	Aug,2010
35	Shivani Bhan	Design & Implementation of Multi-Channel High Speed UART using FPGA	Aug,2010

L. Educational Qualifications

1. **Ph.D. (VLSI and Nanoelectronics)** from Jamia Millia Islamia, New Delhi, India in 2016.
2. **M.Tech.** (**Nanotechnology**) with **distinction** from Jamia Millia Islamia New Delhi, India in 2009.
3. **Bachelor of Engineering (Electronics & Communication)** with **1st Division** from Jamia Millia Islamia, New Delhi, India in 2006.

M. Subjects Taught

A. Subjects Taught at JMI:-

(At PhD course work)
1. Advanced devices & Circuits
2. Electronics and Communication Engineering-I

(At PG level)
1. Advanced Instrumentation & Sensors
2. Emerging Nanoelectronic Devices

(At UG level)
1. Advanced Analog Signal Processing
2. Signal and System
3. Analog Electronics-I

A. Subjects Taught at BGSBU, Rajouri J and K:-

(At UG level)
1. Linear Integrated Circuits
2. Basic Electronics
3. Nanotechnology

B. Subjects Taught at Mewat Engineering College (Waqf), Haryana :-

(At UG level)
1. Microprocessors & Interfacing
2. Analog Electronics
3. Basic Electronics
4. VLSI Design
5. Analog Electronics Circuits

C. Subjects Taught at Galgotias College of Engineering & Technology, U.P. :-

(At PG level)
1. Advanced Microprocessors & Microcontroller

(At UG level)
2. Intro to Electric Drives

D. Subjects Taught at Al-Falah School of Engg & Technology (Now AFU), Haryana:-

(At PG level)
1 Semiconductor Device Modeling & Simulation
2. Advances Devices for MEMS & NEMS.
3. VLSI Technology

(At UG level)
4 Digital System Design using VHDL
5 Microelectronics
6 Microprocessor & Interfacing Devices
7

E. Subjects Taught at University Polytechnic, JMI, Delhi:-

1. T.V. Engineering.
2. Network and Transmission Line.
3. Electronics Devices & Circuits

N. Laboratory Handled:-

1. **Digital System Design** using ***XILINX ISE 8.1i***software.
2. **Electronics Circuit Simulation** using **MULTISIM** software.
3. **Digital Signal Processing** using **MATLAB.**
4. **Microprocessor & Interfacing.**
5. **Embedded System Design using Keil & Flash Magic.**

O. Other Technical Skills:-

a. Having sound experience in electronics based softwares like ***HSPICE, Tanner tools***, ***Xilinx***, ***Multisim***, ***Keil***, ***Flash Magic***, ***Matlab,*** etc.

b. Worked on **FPGA**, **CPLD** & various **Embedded Modules**.

P. Training Programs, Conferences/Seminars attended/Paper Presented

1. **International Workshop** on Physics Semiconductor and Devices - 7-10, December, 2015. IISc, Bangalore.
2. **National Conference** on Advances in VLSI, Embedded & Communication, 10 Aug.,2010 in Al Falah School of Engineering & Technology, Faridabad.
3. **National Conference** on Emerging Technologies and Advancement in Computing, May 13,2010, Apeejay College of Engineering & Technology, Gurugram, Haryana
4. **National Conference** *on* **"Pollution & Its Control: Recent Advances**" at Al-Falah School of Engg & Tech, Faridabad.
5. Two days **"Teachers Orientation Program"** for **Al-Falah School of Engg& Tech,** at Jamia Millia Islamia, New Delhi.
6. Three days Industrial Training on **FPGA**, **CPLD**, **Embedded System Design** from Advance Technology Chandigarh.
7. **National Seminar** on "**Nanomaterials and Devices**" organized by Jamia Millia Islamia.
8. Two days **National Workshop** on History, Aspects, Prospects of Electronics at **Delhi**

University.

9. **National Workshop** on Nanoscale Devices at **IIT Delhi** on 10th November, 2012.
10. **2nd International Conference** on "Innovative Practices in Management and Information Technology for Excellence"- SRIJAN'10, , held on May 8, 2010.Maharaja Agrasen Institute of Management & Technology, Jagadhri, India.
11. **2nd National Conference** on Emerging Trends in Computer Sciences & Information Technology (ETCSIT-2009), Apr.18, 2009.Al Falah School of Engineering & Technology, Faridabad,India.
12. **National Conference** on 29-30 Oct 2009.THAPAR University, Panjab.
13. **National Conference** on Mathematical Modeling in Natural Sciences(MMNS-2008), Aug.12,2008, Al Falah School of Engineering & Technology, Faridabad, India

Q. Nanoelectronics Based Skills (Following Tools have been used)

Sound Hands on HSPICE, FETToy ,Virtul Nano Lab softwares, Electron Cyclotron Resonance(**ECR**) Etching/Deposition Unit, Sputtering Unit, Low Pressure Chemical Vapor Deposition (**LPCVD**),Thermal Evaporation Unit, Sol-Gel Unit, Four Probe I-V Measurement Unit, Scanning Electron Microscope(**SEM**).

PhD Title: -Design and Simulation of Carbon Nanotube Based Devices for Nanoelectronics Applications.

Supervisor: Prof. (Dr.) Sajad A. Loan, PhD –IIT Kanpur

R. Personal Details:-

1	Father's Name	: Mr. M. Nazim
2	Date of Birth	: 23/09/1983
3	Nationality	: Indian
4	Languages Known	: Hindi, Urdu, English & Arabic

Prof. (Dr.) M. Nizamuddin

Dated:-29/01/2025