
Assistant Professor
Department of Electronics and Communication Engineering
Bharati Vidyapeeth's College of Engineering
A-4, Paschim Vihar
New Delhi - 110063, India
Email: monica.gupta@bharatividyaapeeth.edu
Phone: 011-25278444/25278443 (Ext-303)

Qualification:

▪ **Ph.D. in Electronics and Communication Engineering** from **Delhi Technological University, New Delhi (Formerly Delhi College of Engineering)** with **88 % marks** in course work (1st class with distinction).

Topic: SRAM DESIGNS FOR NANOMETER TECHNOLOGIES

Supervisor: Prof. Neeta Pandey

Co-Supervisor : Prof. Kirti Gupta

▪ **M.E. in Electronics and Communication Engineering** from **Delhi Technological University, New Delhi (Formerly Delhi College of Engineering)** with **81.05 % marks** (1st class with distinction).

▪ **B.Tech. in Electronics and Communication Engineering** from **Bharati Vidyapeeth's College of Engineering, New Delhi (GGSIPU)** with **81.3 % marks** (1st class with distinction).

▪ **12th (CBSE board)** with **85 % aggregate** (1st class with distinction) and **PCM of 92%** from **Bal Bharati Public School, Ganga Ram Marg, New Delhi.**

Area of Specialization:

▪ Low power memory design

Work Experience:

▪ Teaching: 16 years 8 months

Subjects Taught:

- Digital circuits and system design
- Analog Electronics I & II
- Switching theory and logic design
- Electronic devices and circuits
- Database and Management System

List of publications:

International Journals:

- Chauhan A, Chopra D, Tayal L, Singal U, Gupta K, Gupta M, “**Design of an Efficient Memristor-based Dynamic Exclusive-OR gate**”, *International Journal of Computer and Communication Technology*, Vol. 8(3), 76-83, Oct. 2022. DOI: 10.47893/IJCCT.2022.1428
- Gupta M, Gupta K, Pandey N, “**A Novel PVT-Variation Tolerant Schmitt-Trigger Based 12T SRAM Cell with Improved Write Ability and High I_{on}/I_{off} Ratio in Sub-Threshold Region**”, *Int J Circ Theor Appl.*, 49(11), 3789-3810, Sep. 2021. DOI : <https://doi.org/10.1002/cta.3134> (**SCI Journal with Impact Factor: 2.038**)
- Gupta M, Gupta K, Pandey N, “**Comparative Analysis of the Design Techniques for Low Leakage SRAMs at 32nm**”, *Journal of Microprocessors and Microsystems*, Elsevier, 85, 1-19, June 2021. DOI : <https://doi.org/10.1016/j.micpro.2021.104281> (**SCI Journal with Impact Factor: 1.526**)
- Gupta M, Gupta K, Pandey N, “**A Data-Independent 9T SRAM Cell with Enhanced I_{on}/I_{off} Ratio and RBL Voltage Swing in Near Threshold and Sub-Threshold Region**”, *Int J Circ Theor Appl.*, 49, 953-969, Feb. 2021. DOI: <https://doi.org/10.1002/cta.2951> (**SCI Journal with Impact Factor: 2.038**)
- Gupta M, Gupta K, Pandey N, “**A Design of Low Leakage Cache Memory Cell for High Performance Processors**”, *Journal of Information and Optimization Sciences*, 40(2), Taylor and Francis, 279-290, June 2019. DOI : <https://doi.org/10.1080/02522667.2019.1578089> (**ESCI® (Web of Science)**)
- Gupta M et. al., “**Design and Implementation of the Robust Watermarking Technique for the Raw Digital Video based on CDMA**”, published in *International Journal of Science, Engineering and Technology Research (IJSETR)*, Volume 5, Issue 2, Feb. 2016.

International Conferences:

- M. Gupta, Manisha, R. Jha, R. Kumari and A. K. Singh, “**PVT-variation based Comparative Analysis of Write Driver Designs for SRAM at 32 nm**”, *2023 Second International Conference on Electrical, Electronics, Information and Communication Technologies (ICEEICT)*, Trichirappalli, India, IEEE, June 2023, pp. 1-6. DOI : 10.1109/ICEEICT56924.2023.10157756. (**Scopus-Indexed**)
- Gupta M, Gupta K, Pandey N, “**A 22nm 10T FinFET SRAM Cell with Improved Read and Write performance in Sub-Threshold Region**”, *8th International Conference on Signal Processing and Integrated Networks (SPIN)*, IEEE , pp. 452-457, Oct. 2021. DOI: 10.1109/SPIN52536.2021.9566009_ (**Scopus-Indexed**)
- Gupta M, Gupta K, Pandey N, “**A 32-nm Sub-Threshold 9T SRAM Bitcell with Improved Read and Write performance**”, *International Conference on Advances in Computing, Communication Control and Networking (ICACCCN)*, IEEE, 781-787, 2018. DOI: 10.1109/ICACCCN.2018.8748302 (**Scopus-Indexed**)
- Gupta M et al., “**A Comparative Analysis of Charge Pump Circuits for Improved Output Voltage Near Subthreshold Region**”, *International Conference on Advances in Computing, Communication Control and Networking (ICACCCN)*, IEEE, 762-767, 2018. DOI: 10.1109/ICACCCN.2018.8748321 (**Scopus-Indexed**)

Professional recognition:

- Received certificate for **exceptional contribution as a Pre-Screening Evaluator in SMART INDIA HACKATHON, 2022** from **Ministry of Education's Innovation cell (Government of India)** in **August, 2022**.
- Received "**Best Researcher award 2021-2022**" awarded by Bharati Vidyapeeth's College of Engineering, New Delhi on held on **July 29,2022**.
- Received a certificate of recognition for contribution as a **Reviewer** of Scientific Journal **International Journal of Reconfigurable and Embedded Systems (Scopus Indexed)** in **August, 2022**.
- Received "**Best Researcher award 2022**" awarded by Delhi Technological University, New Delhi on 5th Research Excellence Award Ceremony held on **March 3, 2022**.
- Received certificate for **exceptional contribution as a Primary Evaluator in TOYCATHON'2021** from **Ministry of Education's Innovation cell (Government of India)** in **December, 2021**.
- Received "**Best Researcher Award 2020-2021**" awarded by Bharati Vidyapeeth's College of Engineering, New Delhi on **September 07, 2021**.
- Received "**Microsoft in Education certificate**" in recognition of membership in the Certified Microsoft Innovative Educator program completed on **May 29, 2020**.

Paper presented:

- Presented a paper titled "**PVT-variation based Comparative Analysis of Write Driver Designs for SRAM at 32 nm**" during the *2023 Second International Conference on Electrical, Electronics Information and Communication Technologies (ICEEICT 2023)*, IEEE held on 05-06 April, 2023 at K. Ramakrishnan College of Engineering, Tiruchirappalli, Tamil Nadu, India.
- Presented a paper titled "**A 22 nm 10T FINFET SRAM Cell With Improved Read and Write Performance in Sub-Threshold Region**" during the 8th International Conference on Signal Processing and Integrated Networks (SPIN-2021) held on 26-27 August, 2021 at Amity University, Noida, India.
- Presented a paper titled "**A Design of Low Leakage Cache Memory Cell for High Performance Processors**" during the IEEE International Conference on Advances in Computing, Communication Control and Networking (ICACCCN 2018) held on 13th-18th OCT, 2018 organized by CSE, IT, MCA dept., Galgotias College of Engineering and Technology, Greater Noida, Uttar Pradesh.
- Presented a paper titled "**A 32-nm Sub-Threshold 9T SRAM Bitcell with Improved Read and Write performance**" during the International Conference on Data Sciences, Security and Applications (ICDSSA 2019) held on 7th-8th March, 2019 organized by IT dept., BVCOE, New Delhi.

Other Activities/Achievements:

- Set-up India's First **Intel oneAPI Student Club (IOSC-BVP)** on Nov 7, 2022.
- Department representative of **Alumni cell of BVCOE, New Delhi** since 2007.
- Worked for **Training and Placement cell of BVCOE, New Delhi** as member for 1 year and then as faculty coordinator for 1 year.
- Worked for **Time-Table committee of BVCOE, New Delhi** for 1 year.
- Working for **Hostel committee of BVCOE, New Delhi** since 2021.
- **GATE** qualified in year 2004 with **98.01 percentile**.
- **GRE** qualified in year 2016 with **316 score**.

Workshops/guest lectures/In-house trainings organized at BVCOE:

- Member of core organizing team of **Confluence 3.0** conducted in ECE department for 2nd year students on June 9, 2023.
- Organized a Guest Lecture on "**Career Opportunities after B.Tech.**" by Made Easy on April 26, 2023 for 2nd year ECE students.
- Organized a Guest Lecture on "**Career Guidance**" by ACE Engineering Academy on March 22, 2023 for 2nd year ECE students.
- Organized a session on "**Getting started with Embedded Systems and IOT domain**" for Second year students of ECE Dept. on June 06, 2022.
- Organized a session on "**Overview of recent trends and technologies in VLSI**" for Second year students of ECE Dept. on April 30, 2022.
- Organized a session on "**How to crack into VLSI industry**" for Second year students of ECE Dept. on April 27, 2022.
- Organized a session on "**The Art of VLSI chip design**" for Second year students of ECE Dept. on April 12, 2022.
- Organized a session on "**Exploring Electronics and Communication Engineering domain with Experts**" for Second year students of ECE Dept. on March 12, 2022.
- Core member of registration and certificate committee of FDP "**Recent advancements in ML and AI**" organized by ECE and IT dept. of Bharati Vidyapeeth's College of Engineering, New Delhi sponsored by AICTE and ISTE and held on 16-22 Dec, 2021.

- Member of core organizing team of **Alumnizoid 1.0** conducted in ECE department for 3rd year students from April, 2021-July, 2021.
- Organized a webinar on topic “**Two-port networks**” by Dr. Anurag Mangla (Semtech) for 3rd year students on December 01,2020.
- Organized a guest lecture on “**Pre-placement Talks**” by Ms Medha Sharma (EnY) for 3rd year students in 2018.
- Organized a workshop on “**A Six Day Technical Enhancement Workshop on SRAM Design (Specs finalization to tapeout)**” conducted by ECE dept. of Bharati Vidyapeeth’s College of Engg, New Delhi from 5th-10th Oct 2017.
- Conducted summer in-house training for six weeks on “**PCB DESIGNING AND ASSEMBLY**” for a batch of **100 students** in Bharati Vidyapeeth’s College of Engg, New Delhi from June to July 2015.
- Conducted summer in-house training as a team member for six weeks on “**FABLESS IC DESIGN**” for ECE students in Bharati Vidyapeeth’s College of Engg, New Delhi from June to July 2014
- Organized “**Convocation Function 2012**” and “**Degree distribution Function 2012**” for BVCOE Alumni on January 2012.

Workshops/guest lectures/In-house trainings attended:

- Completed the **Intel micro-learning module** on “**Demystifying Intel Dev Cloud**” on Sep 15, 2023.
- Completed the **Intel micro-learning module** on “**Introduction to Web 3.0**” on Sep 15, 2023.
- Completed the **Intel micro-learning module** on “**Demystify AI and OpenVINO toolkit**” on Sep 15, 2023.
- Completed the **Intel micro-learning module** on “**Introduction to Generative AI**” on Sep 15, 2023.
- Completed the **Intel micro-learning module** on “**Introduction to Responsible AI skills**” on Sep 15, 2023.
- Attended a one-week Short Term Course on “**Emerging trends in Electronics and Communication**” from July 18, 2023 – July 22,2023 organized by ECE dept. of BVCOE, New Delhi.

- Attended a two-weeks faculty development workshop on "**AI and Data Analytics for Healthcare**" from Feb 20, 2023 - March 03,2023 at Indira Gandhi Delhi Technical University for Women.

- Attended a three-days faculty development workshop on "**Embedded Systems and IOT**" conducted by ST Microelectronics, Greater Noida on 11,20 and 22 April, 2022.

- Participated & completed successfully AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "**Recent Advances in VLSI Design and System**" from 22/11/2021 to 26/11/2021 at Dharmsinh Desai University, Nadiad.

- Participated & completed successfully AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "**VLSI Design Techniques and its Applications in AI/ML**" from 15/11/2021 to 19/11/2021 at Thapar Institute of Engineering & Technology, Patiala.

- Attended Short Term Training Program on "**Emerging Nanoscale Devices, Circuits and Its Applications (NANODC-21)**" organized by Department of Electronics & Communication Engineering, Delhi Technological University, Delhi, India from 10-14 May, 2021.

- Attended webinar on "**Assessment and Accreditation Process for Institutions of Higher Education**" organized by Department of Computer Science, Government College Narnaul, Haryana, INDIA on June 30,2020.

- Attended three Days FDP Program on "**Communication Skills & Human Values in Holistic Development**" conducted by K.C. college of Engg, Thane from 25 June 2020 to 27 June 2020.

- Completed a module "**Structuring your article correctly**" conducted by Research academy in collaboration with Elsevier on Tuesday 23 June, 2020.

- Attended webinar on "**BASIC Author Workshop Research Article Writing & Reference Management Using Mendeley**" organized by the Faculty of Science, Annamalai University in collaboration with ELSEVIER on June 22,2020.

- Attended 4 Days of FDP Program on "**ICT/LMS Tools for Teaching & Learning**" conducted by K.C. college of Engg, Thane from 16th June 2020 to 19th June 2020.

- Attended webinar on "**Webinar on Research in Digital Age – Problems and Opportunities**" conducted by BVICAM on June 12,2020.

- Attended 2-weeks DST sponsored "**Faculty Entrepreneurship Development Programme**" conducted by BVICAM, New Delhi from 3rd Dec 2018 to 15th Dec 2018.

- Attended the research conclave entitled "**Methodology of Research Paper writing and Latex**" conducted by CSE department of Bharati Vidyapeeth's College of Engg, New Delhi on 26th Feb 2018.

- Attended a workshop on “**A Six Day Technical Enhancement Workshop on SRAM Design (Specs finalization to tapeout)**” conducted by ECE dept. of Bharati Vidyapeeth’s College of Engg, New Delhi from 5th-10th Oct 2017.

- Attended GIAN course on “**CIRCUITS, MICROSYSTEMS AND PACKAGING TECHNIQUES INTENDED FOR AUTONOMOUS BRAIN-MACHINE INTERFACE**” organized by DTU during Dec 20-24,2016.

- Attended a workshop on “**Energy Efficiency and Sustainable Energy in Buildings**” conducted by Bharati Vidyapeeth’s College of Engg, New Delhi on Feb 2 2007.

- Participated in a one day seminar on “**Digital Signal Processing & its Application**” conducted by ECE dept. of Delhi College of Engineering, New Delhi on Nov 24,2004.