

## FACULTY INFORMATION FORMAT

1. **Name:** Dr. Sumeet Gupta
2. **Email:** sumeet.gupta@smvdu.ac.in **Phone:** 9419201936
3. **School:** Electronics & Communication Engineering
4. **Designation:** Associate Professor & Faculty I/C Examination, previously served as Dean (R&D), Dean (Academic Affairs), Associate Dean (Academic Affairs), Head, School of ECE, Faculty I/C Website, Faculty I/C Guest House
5. **Area of Research:** Wireless Networks, Embedded Systems
6. **Educational Qualifications –** B.Tech.(Electronics), M.Tech.(IT), Ph.D.  
**Ph.D. from School of Electronics & Communication Engineering, Shri Mata Vaishno Devi University, July 2015**

### 7. Work Experience

Trainee Engineer, ELPRO International Ltd., Pune  
 Trainee Engineer/Product Designer/Coordinator Portable Products, Forbes Marshall Ltd., Pune  
 Faculty, Centre for Electronic Design & Technology of India (CEDTI), Jammu  
 System Administrator, J&K State Vigilance Organization  
 I/C HoD, Department of E&CE, MBS College of Engineering & Technology, Jammu  
 Assistant Professor, School of E&CE, SMVD University  
 Associate Professor, School of E&CE, SMVD University

### 8. Academic Research Projects:

Sr.	Title	Funding Agency	Grant	Duration	PI/Co-PI	Status
1	Design & Development of Set of Algorithms....	ISRO	13.27 Lakh	2 Years	PI	Complete
2	Educational Resource Planning EdRP	MHRD	24.00 Lakh	2 Years	Co-PI	Complete
3	Empirical Study of Psychology & Mindset of Electricity....	JKSERC	4.40 Lakh	6 Months	PI	Complete
4	Self Localization in WSN..	UGC	1.52 Lakh	1 Year	Co-PI	Complete
5	Design of an ADC with Sampling Frequency.... For 5G Technology	NPIU through AICTE	5.52 Lakh	1 Year	Co-PI	Not completed due to resignation of PI
6	Establishment of SMVDU Freescale Lab	Freescale Ltd.	8.00 Lakh	1 Year	Coordinator	Complete
7	Establishment of Centre for Embedded Instrumentation & Networked Controls	UGC-11 <sup>th</sup> Plan	29.00 Lakh	1 Year	Coordinator	Complete

### 9. Industrial Research & Development (R&D)

Sr.	Title	Industry	Remarks
1	Design & Development of 3 Axis Digital Read Out Device	ELPRO International, Pune	Research based Design & Development of these products in Central R&D Department completely in-house with all the products being sold in the process industries across the country and some in International markets.
2	Design & Development of Rotrak Circular Chart Recorder	Forbes Marshall Pvt. Ltd., Pune	
3	Design & Development of Athena Water Quality Analyser	Forbes Marshall Pvt. Ltd., Pune	
4	Design & Development of Banzai Flue Gas Analyser	Forbes Marshall Pvt. Ltd., Pune	
5	Design & Development of SteamLink - Multi Channel Steam Data Logger	Forbes Marshall Pvt. Ltd., Pune	
6	Design & Development of FlowLink Data - Multi Channel Flow Meter Data Logger	Forbes Marshall Pvt. Ltd., Pune	
7	Design & Development of AquaPro Water Quality Analyser	Forbes Marshall Pvt. Ltd., Pune	
8	Design & Development of Effimax 1000 – Steam to Fuel Ratio Meter	Forbes Marshall Pvt. Ltd., Pune	
9	CFMLink 1000 – Condensate Recovery Factor Meter	Forbes Marshall Pvt. Ltd., Pune	

## 10. Additional Projects Handled

Sr.	Title	Funding Agency	Grant	Duration	PI/Co-PI	Status
1	Technical Education Quality Improvement Program-Phase-III TEQIP-III	NPIU	11.00 Crore	3 Years	Coordinator	Complete
2	Transdisciplinary research and Innovation Hub (for Jammu Division Colleges) at SMVDU	JKHED	1.00 Crore	2 Years	Co-coordinator	Ongoing

## 11. Software Package Design & Development

Sr.	Title	Industry/Client	Remarks
1	Design & Development of Billing System for Jammu Club through CEDTI	Jammu Club	Design and Implementation of these packages was done while working as Faculty for Centre for Electronic Design 7 Technology of India, CEDTI, Jammu (Now NIELIT)
2	Design & Development of Package for J&K State Vigilance Organization through CEDTI	J&K State Vigilance Organization	
3	Design & Development of Package for Admission Process for GGM Science College through CEDTI	GGM Science College	
4	Design & Development of Package for Jammu Urban Development Agency through CEDTI	Jammu Urban Development Agency	
5	Design & Development of Package for Directorate of Local Bodies through CEDTI	Directorate of Local Bodies	
6	Design & Development of GradeGen package for Grade-sheet Generation at SMVDU	For SMVDU, in-house	Design & Implementation of Packages for smooth function of academic and evaluation processes
7	Design & Development of RegSoft Semester Registration Package for SMVDU		
8	Design and Development of ExamRecord package for Result Generation		

## 12. Consultancy:

Sr.	Title	Funding Agency	Grant	Duration	CI/Co-CI	Status
1.	Product Development using WSN...	Spirax Marshall	2.25 Lakh	1 Year	Nil	Complete
2.	Green Building..MRA Analysis...	Godrej & Boyce	0.50 Lakh	3 months	Nil	Complete

## 13. Research Guidance:

Sr.	Title	Ph.D. / M. Tech.	Role	Status
1	Modeling and Simulation of Carbon Nano Tube FET for Low Power Digital Design	Ph.D	Supervisor	Awarded
2	Towards Optimized Self Configurable Network Based Disaster Detection & Mitigation	Ph.D.	Supervisor	Awarded
3	Hybrid Wireless Network (5G + VLC)	Ph.D.	Co-Supervisor	Awarded
4	UAV IRS Based Ground Communication Networks for Disaster Situations	Ph.D.	Supervisor	Ongoing
5	Public Safety Monitoring Using Autonomous Vehicles	M.Tech.	Supervisor	Completed
6	Role Of UAVs In City Block Or Urban Environment During Disaster	M.Tech.	Supervisor	Completed
7	Impact of the Channel, Modulation Technique on the Performance of Multiple UAVs for Mars Exploration	M.Tech.	Supervisor	Completed
8	Coverage Extension in Urban Scenario Using UAV Assisted MBS	M.Tech.	Supervisor	Completed
9	Blockchain-Based Decentralized Electronic Healthcare Record Management System	M.Tech.	Supervisor	Completed
10	Secure Blockchain Based OBD Framework for Vehicles In Intelligent Transportation System	M.Tech.	Supervisor	Completed

11	Attribute-Based Authentication Scheme in HETNETs For Medical Applications	M.Tech.	Supervisor	Completed
12	Improved Reliability via Twin Level Control Action in an IoT Ecosystem	M.Tech.	Supervisor	Completed
13	Enhancement In Reliability And Availability Of WSN Using Compression Based Routing	M.Tech.	Supervisor	Completed
14	Event Driven Switching Clustering for Efficient Data Gathering in Hazardous Applications	M.Tech.	Supervisor	Completed
15	Energy optimization and lifetime enhancement of a wireless sensor network by modulation scaling approach	M.Tech.	Supervisor	Completed
16	Novel Methodology for Actor-Actor Communication & Coordination for Overlapped Action Areas in Wireless Sensor & Actuator Networks	M.Tech.	Supervisor	Completed
17	Efficient Revenue Collection System By Using Intelligent Networked Prepaid Energy Meter	M.Tech.	Supervisor	Completed

#### 14. Publications:

##### List of Research Papers:

1. Khan, A., Gupta, S., & Gupta, S. K. (2021). Unmanned aerial vehicle-enabled layered architecture-based solution for disaster management. *Transactions on Emerging Telecommunications Technologies*, 32(12), e4370. <https://doi.org/10.1002/ett.4370>
2. Khan, A., Gupta, S., & Gupta, S. K. (2022). Emerging UAV technology for disaster detection, mitigation, response, and preparedness. *Journal of Field Robotics*, 39(6), 905-955. <https://doi.org/10.1002/rob.22075>
3. Khan, A., Gupta, S., & Gupta, S. K. (2020). Multi-hazard disaster studies: Monitoring, detection, recovery, and management, based on emerging technologies and optimal techniques. *International Journal of Disaster Risk Reduction*, 47, 101642. <https://doi.org/10.1016/j.ijdr.2020.101642>
4. Khan, A., Gupta, S., & Gupta, S. K. (2022). Multi-UAV integrated HetNet for maximum coverage in disaster management, *Journal of Electrical Engineering*, Volume 73 (2022): Issue 2 (April 2022)
5. Khan, A., Gupta, S., & Gupta, S. K. (2024). UAV-Enabled Disaster Management: Applications, Open Issues, And Challenges, *GMSARN International Journal* 18 (2024) 44-53
6. Mondal, S., Shafi, M., Gupta, S., Gupta, S.K., "Blockchain Based Secure Architecture for Electronic Healthcare Record Management", *GMSARN International Journal* 16 (2022) 413-426
7. Kour, K., Gupta, S., & Gupta, S. K. (2022). Deployment Of Multi-UAVs For Mars Exploration. *Journal Of Harbin Institute of Technology*, 54(5), 2022.
8. Bhardwaj, A., Gupta, S., Raj, B., "Development and Analysis of Compact Model for Double Gate Schottky Barrier Carbon Nano Tube Field Effect Transistor", *Journal of Nanoelectronics and Optoelectronics*, Volume 15, Number 10, October 2020, pp. 1199-1208(10), <https://doi.org/10.1166/jno.2020.2846>
9. Bhardwaj, A., Gupta, S., Raj, B., "Investigation of Parameters for Schottky Barrier (SB) Height for Schottky Barrier Based Carbon Nanotube Field Effect Transistor Device", *Journal of Nanoelectronics and Optoelectronics*, Volume 15, Number 10, October 2020, pp. 783-791(9), <https://doi.org/10.1166/jno.2020.2803>
10. Bhardwaj, A., Gupta, S., Raj, B., Singh, A., "Impact of Double Gate Geometry on the Performance of Carbon Nanotube Field Effect Transistor Structures for Low Power Digital Design", *Journal of Computational and Theoretical Nanoscience* (16), 1813–1820, 2019
11. Sharma, D., Gupta, S. K., Rashid, A., Gupta, S., Rashid, M., & Srivastava, A. (2021). A novel approach for securing data against intrusion attacks in unmanned aerial vehicles integrated heterogeneous network using functional encryption technique. *Transactions on Emerging Telecommunications Technologies*, 32(7), e4114. <https://doi.org/10.1002/ett.4114>
12. Lone, T. A., Rashid, A., Gupta, S., Gupta, S. K., Rao, D. S., Najim, M., Srivastava, A., Kumar, A., Umrao, L. S., & Singhal, A. (2020). Securing communication by attribute-based authentication in HetNet used for medical applications. *EURASIP Journal on Wireless Communications and Networking*, 2020(1), 1-21. <https://doi.org/10.1186/s13638-020-01759-5>
13. Gupta S.; Verma S.; Abrol R.K., "Layer Based Query Dissemination & Reliable Data Acquisition Mechanism for Wireless Sensor & Actuator Networks", *International Journal of Grid and Distributed Computing* 8 (4), 327-348
14. Gupta S.; Verma S.; Abrol R.K.; Tomar G.S. "Intelligent Industrial Data Acquisition and Energy Monitoring

- using Wireless Sensor Networks", *International Journal of Grid And High Performance Computing* 2 (3), 44-59
15. Gupta S.; Verma S.; Abrol R.K., "Towards Achieving Reliability in Wireless Sensor Networks - A Survey", *International Journal of Control And Automation* 8 (5), 417-440
  16. Masoodi, I.S., Gupta, S., Kotwal, S.B., "Energy Efficient Routing and Coverage Using Modified Fire-Fly Algorithm in Wireless Sensor Networks", *International Journal of Communication System and Networks, (IJCSN) Vol.6, No.1, Mar (2016)*, 36-44
  17. Gupta S.; Verma S.; Abrol R.K., "Layer Based Time Constrained Reliable Data Acquisition Mechanism for Wireless Sensor & Actuator Networks", *International Journal of Communication System & Networks* 3(1), 9-20
  18. Khan, A., Gupta, S., Gupta, S., Gupta, S.K., "Bluetooth and ZigBee: A Network Layer Architecture Gateway," *International Journal of Simulation: Systems, Science and Technology, Nottingham Trent University, United Kingdom, ISSN 1473-804x Online, ISSN 1473-8031 Print, Vol. 20, No. S1, PP: 9.1-9.10, 2019. DOI 10.5013/IJSSST.a.20.S1.09.*
  19. Sharma, D., Rashid, A., Gupta, S., Gupta, S.K., "Functional Encryption Technique in UAV Integrated HetNet: A Proposed Model," *International Journal of Simulation: Systems, Science and Technology, Nottingham Trent University, United Kingdom, ISSN 1473-804x Online, ISSN 1473-8031 Print, Vol. 20, No. S1, PP: 7.1-7.7, 2019. DOI 10.5013/IJSSST.a.20.S1.07.*
  20. Sharma, G., Reddy, S., Bhardwaj, A.K., Rehalia, A., Gupta, S., Pandit, A.K., "Design of Low Power, High Gain Fully Differential Folded Cascode Operational Amplifier for Front end Read out Circuits", *International Journal of Recent Technology and Engineering, ISSN: 2277-3878, Volume-8 Issue-4, November 2019*
  21. Lone, S., Bhardwaj, A., Pandit, A.K. et al. A Review of Graphene Nanoribbon Field-Effect Transistor Structures. *J. Electron. Mater.* 50, 3169–3186 (2021). <https://doi.org/10.1007/s11664-021-08859-y>
  22. Sarthak Sharma, Shubham Mahajan, Arvind Rehalia, Amit Kant Pandit, Sumeet Gupta, Anil Kumar Bhardwaj, "Analysis Of Low Power Design Techniques For GNR-FET And CNT-FET Based Devices", *Journal of Critical Reviews, Vol 7(19), 2020, 801-806*
  23. Farah Buch, Anil Bhardwaj, Sumeet Gupta, Gaurav Sharma, "Comparison and Performance Analysis of Various Low Power Digital design Techniques", *International Journal of Applied Engineering Research ISSN 0973-4562 Volume 13, Number 8 (2018) pp. 5845-5857, <http://www.ripublication.com> 5845*

#### List of Conference Proceedings:

1. Amina Khan, Sumeet Gupta, Sachin Kr. Gupta, "Cooperative Control between Multi-UAVs for Maximum Coverage in Disaster Management: Review and Proposed Model," *IEEE 2nd International Conference on Computing and Information Technology (ICCIT), University of Tabuk, Tabuk, Saudi Arabia, 25-27 Jan. 2022, pp.271-277.*
2. Gupta, S., Verma, S., Abrol, R.K., Tomar, G.S., "Wireless sensor network based industrial monitoring & diagnostic system", *2009 First International Conference on Computational Intelligence*
3. Khajuria, R., Gupta, S., "Energy optimization and lifetime enhancement techniques in wireless sensor networks: A survey", *International Conference on Computing, Communication & Automation, 396-402*
4. Rashid, A., Sharma, D., Lone, T.A., Gupta, S., Gupta, S.K., "Secure Communication in UAV Assisted HetNets: A Proposed Model", *International Conference on Security, Privacy and Anonymity in Computation SPACCS 2019...*
5. A. Rashid, D. Sharma, T. A. Lone, S. Gupta and S. K. Gupta, "Identity-Based Encryption in UAV Assisted HetNets: A Survey," *2019 10th International Conference on Computing, Communication and Networking Technologies (ICCCNT), Kanpur, India, 2019, pp. 1-6, doi: 10.1109/ICCCNT45670.2019.8944826.*
6. Sharma, S., Gupta, S., Gupta, S., Kotwal, S.B., "IoT Based Innovative Dual Level Control System with Fault Tolerance & Fail Safe Capability", *2018 Second International Conference on Intelligent Computing and Control ...*
7. Bucha, M.; Gupta, S., "Analysis of MAC Protocols for Adhoc & WSN", *Proceedings of UGC Sponsored National Seminar on Wireless communication & Networks, 99-105*
8. Bucha, M.; Gupta, S., "Efficient Energy Analysis & Optimization Technique using WSN", *Proceedings of UGC Sponsored National Seminar on Wireless communication & Networks, 105-113*
9. Gupta, S., Abrol, R.K. "WSN in Industrial Instrumentation & Controls", *Proceedings of NCETIET 2006*

#### Book Chapters

1. Khan, A., Gupta, S., Gupta, S.K. (2023). Disaster Management Solution Based on Collaboration Between SAR Team and Multi-UAV. In: Subhashini, N., Ezra, M.A.G., Liaw, SK. (eds) Futuristic Communication and Network Technologies. VICFCNT 2021. Lecture Notes in Electrical Engineering, vol 995. Springer, Singapore. [https://doi.org/10.1007/978-981-19-9748-8\\_44](https://doi.org/10.1007/978-981-19-9748-8_44)
2. Aabid Rashid, Diwankshi Sharma, Tufail A. Lone, Sumeet Gupta, Sachin Kr. Gupta, "Secure Communication in UAV Assisted HetNets: A Proposed Model," Lecture Notes in Computer Science (LNCS) 11611, Springer Nature Switzerland, pp: 427-440, 14-17 July 2019
3. Gupta, S., Verma, S., Abrol, R.K. & Tomar G.S. (2010). Chapter 19. In Udoh, E., Evolving Developments in Grid and Cloud Computing: Advancing Research (1st Edition, pp 267-282, USA, IGI Global

#### **Professional Memberships**

1. Fellow, Institution of Engineers India
2. Life Member of IETE
3. Member of IEEE