

Biodata

Dr. Shilpi Gupta

Dr. Shilpi Gupta

B.Tech. M.Tech. Ph. D

Associate Professor

Sardar Vallabhbhai National Institute
of Technology, Surat, Gujarat, India

Phone: 09737011973

e-mail: sgupta@eced.svnit.ac.in

Address: B-901, SVNIT Staff
Quarter, SVNIT, Ichchhanath,
Gujarat, India



ORCID: 0000-0002-4262-0000

Scopus Author ID: 57095215800

Educational Details:

B. Tech. in Electronics & Communication, U.P. Technical University, 72%, Year: 2004

M. Tech. in Electronics & Communication, Kurukshetra University, 81%, Year: 2007

Ph. D. Electronics & Communication, SVNIT, Surat, Year: June 2015

Thesis Title: Performance Analysis of Novel Robust Non-Conventional Combinations of Mapping and Transform Techniques at Modulation Stage of OFDM System over Multipath Fading Channels

Areas of expertise: Antenna Design, Waveform Designing for MIMO Radar, Wireless communication, Signal processing, Free space optics, MIMO Antenna Design, Circularly Polarized Antenna

Specific topic of Interest: Antenna design for 5G Applications, Beamforming for 5G, 5G millimeter Wave, Waveform Designing for MIMO Radar,

Experience:

Sr. No.	Position held (Designation)	Place of work	Duration	Areas of work
1	Associate Professor	Sardar Vallabhbhai National Institute of Technology, Surat	2019- Present	Teaching (UG, PG), Ph. D. Supervision
2	Assistant Professor	Sardar Vallabhbhai National Institute of Technology, Surat	2007- 2018	Teaching (UG, PG), Ph. D. Supervision

List of Publications

International Journal Publications

1. Ramya Radhakrishnan and Shilpi Gupta, "Axial Ratio Tuned Circularly Polarized Slot-Loaded Antenna for S-Band and C-Band Applications" Progress In Electromagnetics Research C, Vol. 113, 239-249, 2021 doi:10.2528/PIERC21050901 (SCOPUS)

2. Ramya R., Rucha Dholakiya, **Shilpi Gupta**, Dattatreya Gopi, "Axial Ratio Tuned disk shaped bandwidth enhanced triple notch circularly polarized slot antenna." *International Journal of RF and Microwave Computer Aided Engineering*. (SCIE)
3. Anushtha Nimavat, Aman Sah, Tushar Pokhra, Abhishek Tripathi, Shilpi Gupta, "Analysis of Hermite-Gaussian and Laguerre-Gaussian modes in mode division multiplexing based FSO system", *Optoelectronics and Advanced Materials-Rapid Communications*, vol 17, 122-128, 2023
4. Ramya Radhakrishnan and Shilpi Gupta, "Axial Ratio Bandwidth Enhanced Proximity Fed Fractal MGS – Based Circularly Polarized Patch Antenna" *Progress In Electromagnetics Research*. (Scopus)
5. Dattatreya Gopi, Vinay K., **Gupta Shilpi**, Reddy D.V, "ACS-ted Textile based wearable antenna for MBAN and ISM band applications." *International Journal of Numerical Modelling Electronic Networks, Devices and Fields*, DOI: 10.1002/jnm.2920 (SCI)
6. Mitesh Solanki, **Shilpi Gupta**, "Preconditioning Conjugate-Gradient Based LAS Detection for Massive MIMO Systems," *Int. J. of Ultra-Wideband Communications and Systems (IJUWBCS)* (SCOPUS)
7. Mitesh Solanki, Shilpi Gupta, "Training-Based Channel Estimation for Massive MIMO Systems using LAS Algorithm." *International Journal of Ultra-Wideband Communications and Systems*. (SCOPUS)
8. Mitesh Solanki, Shilpi Gupta, "Robust Conjugate-Gradient Based LAS Detector for Massive MIMO Systems." *International Journal of Electronics* (SCIE)
9. Abhishek Tripathi, Shilpi Gupta, Abhilash Mandloi, "Investigation of weather effects toward convergence of wired and wireless gigabit services over hybrid free-space optical link," *Optical Engineering*, 60, 2, 2021: 026102 (SCIE)
10. Tripathi Abhishek, **Shilpi Gupta**, Abhilash Mandloi, "Performance of orthogonal frequency division multiplexing based 60-GHz transmission over turbulent free-space optical link." *Journal of Optical Communications, January 2021* (SCOPUS)
11. Divyangana Gandhi, **Shilpi Gupta**, Monika Gambhir, "EDFA Gain flattening optimization with Long Period Fiber Gratings in WDM system." *Journal of Optical Communications*, September 2020 (SCOPUS)
12. Divyangana Gandhi, **Shilpi Gupta**, "Flat gain optimization of Erbium- Ytterbium co-doped fiber optical amplifier for ultra-dense WDM system" *Journal of Optoelectronics and Advanced Materials* (2022). (SCI)
13. Tripathi Abhishek, **Shilpi Gupta**, Abhilash Mandloi, and Gireesh G. Soni (Published Ahead of print) "An investigation of 16-QAM signal transmission over turbulent RoFSO link modeled by gamma-gamma distribution." *Journal of Optical Communications* 1, (2020) (SCOPUS)
14. Tripathi Abhishek, Gireesh G. Soni, **Shilpi Gupta**, and Abhilash Mandloi. "An Optical Architecture of 12× 2.5 Gbps Wavelength-Interleaving Free Space Hybrid Distribution System Under Turbulent Atmosphere." *Wireless Personal Communications* (2020): 1-12. (SCIE)
15. Abhishek Tripathi, Shilpi Gupta, Abhilash Mandloi, "Orthogonally polarized and 60 GHz dual-channel based 18× 2.5 Gb/s DWDM-interleaved hybrid FSO system under atmospheric turbulence," *Optical and Quantum Electronics*, 52, no. 4 (2020): 1-12 (SCI)
16. Soni Gireesh G., Abhishek Tripathi, Abhilash Mandloi, and **Shilpi Gupta**. "Effect of wind pressure and modulation schemes on rain interrupted optical wireless links under tropical climates." *Optical and Quantum Electronics* 51, no. 6 (2019): 172. (SCI)

17. Soni Gireesh G., Abhishek Tripathi, Abhilash Mandloi, and **Shilpi Gupta**. "Compensating rain induced impairments in terrestrial FSO links using aperture averaging and receiver diversity." *Optical and Quantum Electronics* 51, no. 7 (2019): 244. (SCI)
18. Soni Gireesh, Abhilash Mandloi, and **Shilpi Gupta**. "Feasibility Analysis of Optical Wireless Communication for Indian Tropical and Subtropical Climates." *Journal of Optical Communications* 1, (2019): 1-8 (SCOPUS)
19. Bhamre Pooja, and **Shilpi Gupta**. "GMTI STAP performance under space-time impaired clutter environment." *IET Radar, Sonar & Navigation* 13, no. 10 (2019): 1836-1841. (SCI)
20. Bhamre Pooja M., and **Shilpi Gupta**. "A novel constrained waveform designing for MIMO RADAR using optimization algorithms." *IETE Technical Review* (2020): 1-11. (SCIE)
21. Bhamre Pooja, and **Shilpi Gupta**. "Constrained Waveform Designing for MIMO RADAR Using Jaya Optimization." *Wireless Personal Communications* 111, no. 1 (2020): 331-342. (SCIE)
22. Tripathi Abhishek, Gireesh G. Soni, **Shilpi Gupta**, and Abhilash S. Mandloi. "Experimental investigation of wind and temperature induced scintillation effect on optical wireless communication link." *Optik* 178 (2019): 1248-1254. (SCI)
23. Solanki Mitesh, **Shilpi Gupta**, and Vinay kumar Singh. "A Novel Efficient Sphere Decoding with Reed-Solomon Code in MIMO Detection." *International Journal of Innovative Technology and Exploring Engineering* (SCOPUS)
24. Bhamre Pooja, and **Shilpi Gupta**. "Optimization of Poly Phase Codes in Time Domain for MIMO RADAR." *International Journal of Innovative Technology and Exploring Engineering* (SCOPUS)
25. Gambhir Monika, and **Shilpi Gupta**. "Advanced optimization algorithms for grating based sensors: A comparative analysis." *Optik* 164 (2018): 567-574. (SCI)
26. Gambhir Monika, **Shilpi Gupta**, Priya John, Ramakanta Mahakud, Jitendra Kumar, and Om Prakash. "Surface Modified Long Period Fiber Grating Sensor for Rapid Detection of Aspergillus Niger Fungal Spores." *Fiber and Integrated Optics* 37, no. 2 (2018): 79-91. (SCI)
27. **Gupta Shilpi**. "Selective and rapid detection of soil fungi using surface modified long period fiber gratings." *Optik* 159 (2018): 301-304. (SCI)
28. Gambhir M., **S. Gupta**, P. John, R. Mahakud, J. Kumar, and O. Prakash. "Detection of fungi using a long-period fibre grating." *Ukrainian journal of physical optics* 18, № 2 (2017): 77-82. (SCOPUS)
29. Aravind V. S., **Shilpi Gupta**, Satya Bhushan Shukla, K. K. Mukundan, and C. K. Aswathi. "Compact EBG ground plane microstrip antenna for broad bandwidth applications." *Microwave and Optical Technology Letters* 58, no. 3 (2016): 555-557. (SCIE)
30. **Gupta Shilpi**, Upena Dalal, and Vishnu Narayan Mishra. "Performance on ICI Self-Cancellation in FFT-OFDM and DCT-OFDM System." *Journal of Function Spaces* 2015 (2015).

Conference Papers

1. Chaitanya V, Ramya Radhakrishnan and **Shilpi Gupta** "Circularly Polarized Substrate Integrated Waveguide Filtenna for S- Band Applications" **in** *Microwave, Antennas, and Propagation Conference (MAPCON)*, 12-16 Dec 2022 (IEEE Xplorer)
2. Usha Sunkari, Ramya Radhakrishnan and **Shilpi Gupta** "Circularly Polarized Substrate Integrated Waveguide Filtenna for S- Band Applications" **in** *Microwave, Antennas, and Propagation Conference (MAPCON)*, 12-16 Dec 2022 (IEEE Xplorer)

3. Ramya Radhakrishnan and **Shilpi Gupta**, “Circularly polarized sector patch antenna with Fractal Defected ground structure”, Accepted in 4th International Conf. on Emerging Technology Trends in Electronics, Communication and Networking (ET2ECN-2021) SVNIT, Surat, India.
4. Nabeela Jahan, Ramya Radhakrishnan and **Shilpi Gupta**, “Two element MIMO antenna with Polarization Diversity for 5G application”, **Accepted** in 4th International Conf. on Emerging Technology Trends in Electronics, Communication and Networking (ET2ECN-2021) SVNIT, Surat, India.
5. Aishwarya Medpalliwar, **Shilpi Gupta** and Abhishek Tripathi, “Performance analysis of OFDM based wireless over Fiber Communication System”, **Accepted** in 4th International Conf. on Emerging Technology Trends in Electronics, Communication and Networking (ET2ECN-2021) SVNIT, Surat, India.
6. Hardik Joshi and **Shilpi Gupta**, “Performance Comparison of Different Diversity and Combining Techniques over Gamma-Gamma FSO link”, **Accepted** in 4th International Conf. on Emerging Technology Trends in Electronics, Communication and Networking (ET2ECN-2021) SVNIT, Surat, India.
7. Mitesh Solanki, **Shilpi Gupta**, “A Robust Massive MIMO Detection Based on Conjugate Gradient Approach,” Int. Conf. on Computational Electronics for Wireless Communications (ICWC-2021) NIT Kurukshetra, India. (Accepted for Publication in Scopus Indexed LNNS series of Springer)
8. Mitesh Solanki, **Shilpi Gupta**, “Performance Analysis of LAS Algorithm in Massive MIMO with Imperfect CSI,” Int. Conf. on Computational Electronics for Wireless Communications (ICWC-2021) NIT Kurukshetra, India. (Accepted for Publication in Scopus Indexed LNNS series of Springer)
9. A Krishnama Raju, Shilpi Gupta, Akriti Jaiswal, “An Efficient Deep Neural Networks based Channel estimation and signal detection in OFDM systems,” Int. Conf. on Computational Electronics for Wireless Communications (ICWC-2021) NIT Kurukshetra, India. (Accepted for Publication in Scopus Indexed LNNS series of Springer)
10. Ramya Radhakrishnan, **Shilpi Gupta**, “Systematic Literature Review: Circularly polarized antennas using Slot and Defected ground structure”, in National Conference on Innovations in Computing, Electronics and Communication Engineering 2020
11. Bhoomika Patel, Upena Dalal, **Shilpi Gupta**, “Survey on Various Waveform candidates for 5th generation,” in National Conference on Innovations in Computing, Electronics and Communication Engineering 2020
12. G. G. Soni, A. Tripathi, A. Mandloi and **S. Gupta**, “Outage and SNR Performance of Tropical Optical Wireless Links using Receiver Diversity,” in Springer 3rd Int. Conf. on Emerging Technology Trends in Electronics, Comm. and Networking (ET2ECN 2020) SVNIT, Surat, India.
13. Pooja Bhamre, **S. Gupta**, “Jaya Optimized Poly Phase Coded Waveform Design for MIMO Radar,” in IEEE World Conference on Innovations in Management, Science and Engineering WCISE’2019: ICFAI University, Dehradun, Uttarakhand, India,
14. Gandhi Divyangna and **Gupta Shilpi**, “Evaluation of Gain and Noise Figure spectrum of EDFA by optimizing its parameters with different Pumping schemes in the scenario of DWDM System,” in Springer 3rd Int. Conf. on Emerging Technology Trends in Electronics, Comm. and Networking (ET2ECN 2020) SVNIT, Surat, India

15. Chhaya Suratwala, **Shilpi Gupta**, Abhilash Mandloi and Pranav Lapsiwala, “Experimental study on Etching of FBG for sensing Application,” in Springer 3rd Int. Conf. on Emerging Technology Trends in Electronics, Comm. and Networking (ET2ECN 2020) SVNIT, Surat, India.
16. Monika Gambhir and **Shilpi Gupta**, “Long Period Fiber Grating Sensors Design Optimization using Jaya Algorithm,” in Springer 3rd Int. Conf. on Emerging Technology Trends in Electronics, Comm. and Networking (ET2ECN 2020) SVNIT, Surat, India.
17. Abhishek Tripathi, Gireesh G. Soni, **Shilpi Gupta**, and Abhilash S. Mandloi, “Performance Analysis of 16-QAM based RoFSO System over Gamma-Gamma Modeled Turbulence Channel,” in Springer 3rd Int. Conf. on Emerging Technology Trends in Electronics, Comm. and Networking (ET2ECN 2020) SVNIT, Surat, India.
18. Mitesh Solanki, **Shilpi Gupta**, “A Comparative Evaluation of Low Complexity LAS Detection Algorithm for Massive MIMO System,” in Springer 3rd Int. Conf. on Emerging Technology Trends in Electronics, Comm. and Networking (ET2ECN 2020) SVNIT, Surat, India.

Patent Granted/Published

Innovation Patent:

- **Shilpi Gupta**, Pooja Bhamre, “A distinctive method to design Null-Steered transmit beamforming through discrete polyphase coded waveforms”, Patent granted by Australian Government on 15/07/2021. Registration No. 2021104157
- **Shilpi Gupta**, Mitesh Solanki, “A Method and System for Achieving a Detection Scheme having Low Computational Load using A Conjugated Gradient Based Likelihood Ascent Search (CGLAS) Signal Detection Algorithm”, Patent granted by Australian Government on 03/11/2021. Registration No. 2021106228
- **Shilpi Gupta, Divyangana Gandhi, Monika Gambhir, Pooja Bhamre**, “**A system and a method for EDFA gain flattening optimization**” Patent granted by Australian Government on **6th April 2022**. Registration No. 2021104951

Design Patent:

- Indian design patent filed-"Laser Diode Mount". Application no. 357679-001.
- Indian design patent Awarded by -"Atmospheric Turbulence Chamber". Design no. 360949-001 dated 21/03/2022.
- Indian design patent filed-"IC Trainer Kit". Application no. 364384-001.

Research Project Granted:

Polarization Tunable Circularly Polarized Antenna with Graphene for Ka Band Applications.
ISRO Regional Academic Center for Space

Number of Students Supervised:

- Bachelor of Technology (B. Tech.): 60
- Master of Technology (M.Tech.): 30

Ph. D Supervision:

Sr. No.	Name of the Student	Current Status
1	Dr. Monika Gambhir	Thesis Awarded
2	Dr. Pooja Bhamre	Thesis Awarded
3	Dr. Girish Gaurav Soni	Thesis Awarded
4	Dr. Mitesh Solanki	Thesis Awarded
5	Dr. Abhishek Tripathi	Thesis Awarded
6.	Ms. Divyangana Gandhi	Thesis Submitted
7.	Dr. Ramya R.	Thesis Awarded
8.	Hardik Joshi	Ongoing
9.	Meenakshi Parashar	Ongoing

Outreach activities:

- Reviewer of International Journal of IET Radar, Sonar & Navigation
- Reviewer of International Journal of Wireless Personal Communication
- Member of Technical program Committee in 3rd International Conference on Recent Advances and Innovations in Engineering ICRAIE-2018 (22-25 November 2018)
- Hon. Secretary of IETE Surat Sub-Center from 2016-2020
- Reviewer of International Journal of Electronics
- TPC member in 6th International Conference on Signal Processing and Integrated Networks (SPIN 2019)
- Member of Technical program Committee in 2020 Sixth International Conference on Parallel, Distributed and Grid Computing (PDGC), 2020
- Reviewer of Machine learning, Deep learning and Computational Intelligence for wireless communication (MDCWC2020)
- Vice Chairperson of IETE Surat Sub-Center 2020- Present
- External Thesis Reviewer and Examiner: KBCNMU Jalgaon
- External Thesis Reviewer and Examiner: VTU Belgavi

STTPs/Conferences /Workshop Organized:

Sr. No.	Name of the Programme	Date of the Programme
1	Workshop on Curriculum Development	January, 2008
2	Summer School on "Microwave Integrated Circuits"	16/6/2008 -20/6/2008
3	National Conference on "Advancement in Wireless Technologies and Its Applications"	18/12/2008 - 19/12/2008
4	Staff Development Programme on "Advance Laboratory Techniques in RF & Microwaves"	22/12/2008 - 26/12/2008

5	National Workshop on “VLSI Design Tools”	28/2/2009 - 01/3/2009
6	Summer School on “Nanotechnology and Applications”	13/7/2009 - 17/7/2009
7	Winter School on “Teaching with MATLAB and Simulink”	21/12/2009 - 25/12/2009
8	International Conference “Emerging technology Trends in Electronics, Communication and Networking—ET2ECN 2012”	19/12/2012 -21/12/2012
9	STTP on Wireless and Optical Communication	24 /06/2013 -28/06/2013
10	STTP on 3 G & 4G Technology	30/9/2013 - 4/10/2013
11	STTP on Nanoscale Integration, Fabrication & Characterization	21/10/2013 - 25/10/2013
12	Seminar on 5G Technology	23/10/2015- 25/10/2015
13	Paper and article Writing Using LaTeX	10/12/2017 – 14/12/2017
14	Advancements in Wireless and Optical communication	21/12/2017 – 25/12/2017
15	3 rd International Conference on Emerging Technology Trends in Electronics, Communication and Networking	February 6-7, 2020
16	One Week Short Term Training Program on Recent Trends in RF Technology for 5G and IoT	October 12-16, 2020
17	4 th International Conference “Emerging Technology Trends in Electronics, Communication and Networking—ET2ECN 2021”	November 6/11/2021 - 7/11/2021
18	Hands-on Training on Design, Fabrication and Testing of 5G Antenna using Machine Learning	12-19 May, 2023

Department and Institute Level Administrative Contribution:

❖ PhD Incharge in Department of Electronics, SVNIT
❖ Chairperson of Workload and Time Table Committee in Department of Electronics, SVNIT
❖ Chairperson of IETE Surat Subcentre
❖ Local committee member in MAPCON 2023
❖ Department Newsletter Chairperson
❖ Database committee chairperson
❖ PG Workshop coordinator
❖ Lab In charge Basic Communication lab
❖ Committee member for Ph. D. admission
❖ PG In charge Communication System
❖ Position Held Asso. Warden
❖ Faculty Advisor Student chapter IETE Student Forum (ISF)

❖ Faculty Advisor B. Tech. I Year (DIV D)
❖ Member of Scrutiny Committee for Assistant Professor AGP 6000
❖ Member of Scrutiny Committee for Assistant Professor AGP 6000/, 7000/, 8000/
❖ Scrutiny member of fee remission recommendation committee
❖ Committee Member in Convocation
❖ Served as Associate Hostel Warden
❖ Technical Committee member of Technical Event Mindband
❖ Position Held (Chairman/Member of Committee/Lab-in Charge/Prof. in Charge /Coordinator/Faculty Advisor etc.

Society Membership details:

The Institution of Electronics and Telecommunication Engineers (IETE): Life Member;
Associate Member (AM 202267)

The Institute of Electrical & Electronics Engineers (IEEE)