



Name: Dr. Priyanka Singh

Designation: Assistant Professor

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Professional Qualification:

- ◆ **Postdoctoral Research Fellow**, CONNECT / The Centre for Future Networks and Communication, School of Computer Science and Statistics, Trinity College Dublin, The University of Dublin, Ireland.

- ◆ **Doctor of Philosophy (Ph.D.)** in Electronics & Communication Engineering, Indraprastha Institute of Information Technology-Delhi (IIIT-D), India.

- ◆ **Master of Technology (M.Tech)** in Mobile & Pervasive Computing, Indira Gandhi Delhi Technical University for Women (IGDTUW), Delhi, India.

- ◆ **Bachelor of Technology (B.Tech)** in Electronics and Communication Engineering, Uttar Pradesh Technical University (U. P. T. U), India.

Publications (Journals & Conferences):

- ◆ **P. Singh, V. A. Bohara, and A. Srivastava**, “Intelligent mirror element assignment in OIRS-aided UAV-based FSO network under different environmental conditions,” (Submitted).

- ◆ **P. Singh**, H. B. Salameh, V. A. Bohara, A. Srivastava, and M. Ayyash, “Jamming-resilient mirror element allocation scheme for OIRS-aided UAV-based FSO networks,” *IEEE Transactions on Intelligent Vehicles*, pp. 1–12, 2024. doi: 10.1109/TIV.2024.3450191.
- ◆ **P. Singh**, H. B. Salameh, V. A. Bohara, A. Srivastava, and M. Ayyash, “Optimizing connectivity in OIRS-assisted UAV indoor optical networks: Efficient admission control and mirror-element assignment,” *IEEE Transactions on Network Science and Engineering*, pp. 1–11, 2024.
doi: 10.1109/TNSE.2024.3353671.
- ◆ **P. Singh**, H. B. Salameh, V. A. Bohara, A. Srivastava, and M. Ayyash, “On mitigating reactive jamming with dynamic resource allocation in optical IRS and UAV-assisted FSO-based networks,” *Physical Communication*, p. 102 520, 2024, issn: 1874-4907. doi: <https://doi.org/10.1016/j.phycom.2024.102520>.
- ◆ **P. Singh**, V. A. Bohara, and A. Srivastava, “Reliable and cost effective all-optical wireless architecture for a broadband access network,” *J. Opt. Commun. Netw.*, vol. 15, no. 2, pp. 98–110, Feb. 2023. doi: 10.1364/JOCN.463574.
- ◆ **P. Singh**, V. A. Bohara, and A. Srivastava, “On the optimization of integrated terrestrial-air-underwater architecture using optical wireless communication for future 6G network,” *IEEE Photonics Journal*, vol. 14, no. 6, pp. 1–12, 2022. doi: 10.1109/JPHOT.2022.3210481.
- ◆ **P. Singh**, A. Gupta, V. A. Bohara, and A. Srivastava, “QoS-aware reliable architecture for broadband fiber-wireless access networks,” *IEEE Systems Journal*, vol. 16, no. 4, pp. 5753–5764, 2022. doi:10.1109/JSYST.2022.3149854.
- ◆ **P. Singh**, H. A. B. Salameh, V. A. Bohara, A. Srivastava, and M. Ayyash, “Efficient mirror element assignment in OIRS-aided UAV-based FSO networks with rate adaptation,” in *2024 IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom)*, 2024, pp. 13–16. doi: 10.1109/BlackSeaCom61746.2024.10646266.

- ◆ **P. Singh**, H. B. Salameh, V. A. Bohara, A. Srivastava, and M. Ayyash, “Jamming attacks on FSO networks: Challenges, opportunities, and a public safety use-case,” in 2024 IEEE World Forum on Public Safety Technology (WFPST), 2024, pp. 7–12. doi: 10.1109/WFPST58552.2024.00027.
- ◆ S. S, **P. Singh**, A. Singh, and A. Srivastava, “Hybrid RF-VLC technology for V2X in platooning applications under different weather conditions,” in 2024 IEEE Wireless Communications and Networking Conference (WCNC), 2024, pp. 1–6. doi: 10.1109/WCNC57260.2024.10570908.
- ◆ K. Jeyapiriya, **P. Singh**, A. Singh, and A. Srivastava, “Performance analysis of DCO-OFDM based UWOC system under varying underwater channel conditions,” in 2023 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), 2023, pp. 1–6. doi: 10.1109/ANTS59832.2023.10469575.
- ◆ **P. Singh**, H. A. Bany Salameh, V. A. Bohara, A. Srivastava, and M. Ayyash, “Opportunities and challenges of OIRS-assisted UAV-based FSO communication systems,” in 2023 International Conference on Intelligent Computing, Communication, Networking and Services (ICCNS), 2023, pp. 92–98. doi: 10.1109/ICCNS58795.2023.10193665.6
- ◆ **P. Singh**, V. A. Bohara, and A. Srivastava, “On the optimal assignment of mirror element in UAV and OIRS-assisted OWC based architecture,” in 2023 IEEE 97th Vehicular Technology Conference (VTC2023-Spring), 2023, pp. 1–7. doi: 10.1109/VTC2023-Spring57618.2023.10199990.
- ◆ **P. Singh**, A. Gupta, V. A. Bohara, and A. Srivastava, “Cost effective hybrid FSO-wireless architecture for broadband access network,” in 2022 International Conference on Optical Network Design and Modeling (ONDM), 2022, pp. 1–6. doi: 10.23919/ONDM54585.2022.9782861.

Awards and Achievements

- ◆ **IEEE Comsoc Student Travel Grant** awarded by IEEE Communications Society for participation in IEEE Wireless Communications and Networking Conference (WCNC) 2024, Dubai, United Arab Emirates.
- ◆ **International Travel Support (ITS)** Awarded by Science and Engineering Research Board (SERB), Department of Science and Technology, Govt. of India, for attending IEEE WCNC 2024.

- ◆ **CSIR Foreign Travel Grant** Awarded by Council of Scientific & Industrial Research (CSIR), India, for IEEE WCNC 2024. (Not Availed)
- ◆ **Overseas Research Fellowship (ORF)** Awarded by IIT, Delhi, India in 2023.
- ◆ **Senior Research Fellowship (SRF)** awarded by the University Grants Commission (UGC), Govt. of India in June 2022.
- ◆ **Junior Research Fellowship (JRF)** Awarded by UGC, Govt. of India in June 2019.
- ◆ Qualified **National Eligibility Test (NET)** conducted by UGC, Govt. of India in 2019.
- ◆ Qualified **GATE (Graduate Aptitude Test in Engineering)** conducted by Govt. Of India in 2013

Workshops/Seminars/FDPs

- ◆ Attended Five-day ISTE Workshop for Coordinators on “Signals and System” under the National Mission on Education through ICT (MHRD, India) during 30 Sep to 4 Oct 13 Conducted at IIT Kharagpur.
- ◆ Organized Ten days Workshop on “Signal & Systems” conducted by IIT, Kharagpur in Nov 2013.
- ◆ Attended Five-day ISTE Workshop for Coordinators on “Analog Electronics” under the National Mission on Education through ICT (MHRD, India) during 1 april 13 to 5 april 13 Conducted at IIT Kharagpur.
- ◆ Organized Ten days Workshop on “Analog Electronics” conducted by IIT, Kharagpur during 4 Jun to 14 Jun 13.
- ◆ Attended a FDP program on “Effective Teaching Skills & Personality development Programme” conducted by CLHRD, Mangalore.
- ◆ Attended 7days workshop on “VLSI Design& Technology” at IIT, Roorkee.
- ◆ Attended 10 days workshop on “Embedded Systems” conducted by CETPA, at Roorkee.

Work Experience: 10+ Years

- ◆ Teaching Assistant for NPTEL Online Certification Course on "Optical Wireless Communications for Beyond 5G Networks and IoT", Organized by NPTEL, IIT Madras, India from 2022 to 2026.
- ◆ Worked as a Research Intern on the project “Indoor Hybrid Flying Networks for Safety Applications and Services (FlyServ)” in Abu Dhabi, UAE from January–June 2023. The project was supervised by Haythem Bany Salameh (Al-Ain University, Abu Dhabi), with Moussa Ayyash (Chicago State University, USA) and Hany Elgala (University at Albany, USA) serving as co-investigators.
- ◆ Worked as Assistant Professor at Dr. Akhilesh Das Gupta Institute of Technology and Management, formerly known as Northern India Engineering College, New Delhi from Jan 2017 to Dec, 2019.
- ◆ Worked as Assistant Professor at G L Bajaj Group of Institutions, Mathura, Uttar Pradesh from July 2012 to Jan 2014.
- ◆ Worked as Assistant Professor at Anand Engineering College, Agra, Uttar Pradesh from Jan 2007 to August 2011.
- ◆ Taken a training of Faculty Development Institute (FDI, Greater Noida)of one month in December 2007, Conducted by SGI (Sharda Group of Institution) Group.

Technical Skills:

- ◆ Tool: P SPICE, VPI transmission Maker™ optical systems, Network Simulator/Emulators: NS-2, NS-3.
- ◆ Coding: C, MATLAB, Python, LATEX.
- ◆ Misc: Academic research, teaching, LATEX typesetting, and publishing.

Professional Memberships:

- ◆ IEEE Member
- ◆ IEEE Communications (ComSoc) Society
- ◆ IEEE Women in Engineering (WIE) Society