

Dr. Anand Jee

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Linkedin | Google Scholar | ResearchGate | Scopus | Orchid | Vidwan | Researcher Id

Education

Doctor of Philosophy(Wireless Communication) 2018–2023
Department of Electrical Engineering CGPA–9.5
Indian Institute of Technology Delhi
Thesis Title: Performance of Downlink Networks with Spectrally Efficient NOMA Signalling
Thesis Supervisor: Prof. Shankar Prakriya

Master of Technology(Communication & Signal Processing Engineering) 2016–2018
Department of Electronics & Communication Engineering CGPA–9.6
National Institute of Technology Silchar
Thesis Title: Performance Evaluation of Secondary User in Cognitive Radio Ad-Hoc Networks
Thesis Supervisor: Dr. Wasim Arif

Bachelor of Technology 2010–2014
Department of Electronics & Communication Engineering CGPA–9.36
ICFAI University Dehradun

Professional Experience

Anand Jee is an Assistant Professor in the Department of Electronics and Communication Engineering at MANIT Bhopal. Previously, he served as a Standards Specialist (Chief Engineer) at Samsung R&D Institute India–Bangalore (SRI-B), where he led research and innovation in IEEE 802.11 TGbn (Wi-Fi 8) standardization with a focus on the physical layer. He represented SRI-B as a delegate in IEEE 802 meetings held in Warsaw (May 2025) and Madrid (July 2025). His research in Wi-Fi includes topics such as unequal modulation, coordinated spatial reuse, coordinated beamforming, distributed resource units, CSI enhancement and feedback compression.

Assistant Professor, MANIT Bhopal Nov 2025 – Present
Standards Specialist (Chief Engineer), SRI-B Mar 2025 – Nov 2025
Senior Standards Engineer (Lead Engineer), SRI-B Mar 2024 – Feb 2025

Journal Publications

1. P. Saikia, A. Jee, K. Singh, A. -A. A. Boulogeorgos and T. A. Tsiftsis, “Hybrid-RIS Empowered UAV-Assisted ISAC Systems: Transfer Learning-based DRL,” *IEEE Transactions on Communications*, vol. 73, no. 9, pp. 8314-8329, Sept. 2025.
2. A. Jee and S. Prakriya, “Performance of Statistical Power Control with Simplified User Selection and Mode Switching in Hybrid NOMA/OMA Networks,” *IEEE Transactions on Green Communications and Networking*, vol. 9, no. 1, pp. 2-14, March 2025.
3. S. Kumar, A. Jee, and S. Prakriya, “Optimizing Performance of IRS Partition Based

- Downlink NOMA Networks,” *IEEE Wireless Communications Letters*, vol. 13, no. 3, pp. 761-765, March 2024.
4. A. Jee and S. Prakriya, “A Novel Power Control Based Multiuser Downlink NOMA Network for High Throughput,” *IEEE Wireless Communications Letters*, vol. 13, no. 2, pp. 392-396, Feb. 2024.
 5. K. Agrawal, A. Jee and S. Prakriya, “Performance of a Multiuser Cooperative IoT NOMA Network with Battery-Assisted Energy Harvesting,” *IEEE Transactions on Industrial Informatics*, vol. 20, no. 2, pp. 2307-2319, Feb. 2024.
 6. K. Agrawal, A. Jee, U. Makhanpuri and S. Prakriya, “Performance of Full-Duplex Cooperative NOMA with Mode Switching and an EH Near User,” *IEEE Networking Letters*, vol. 5, no. 4, pp. 284-288, Dec. 2023.
 7. A. Jee, B. Kalani and S. Prakriya, “Optimizing Performance of a Backscatter-Assisted Underlay Network,” *IEEE Communications Letters*, vol. 27, no. 12, pp. 3200-3204, Dec. 2023.
 8. A. Jee and S. Prakriya, “Performance of Energy and Spectrally Efficient AF Relay-Aided Incremental CDRT NOMA Based IoT Network with Imperfect SIC for Smart Cities,” *IEEE Internet of Things Journal*, vol. 10, no. 21, pp. 18766-18781, Nov, 2023.
 9. A. Jee, K. Agrawal, D. Johari and S. Prakriya, “Performance of CDRT based Underlay Downlink NOMA Network With Combining at the Users,” *IEEE Transactions on Cognitive Communications and Networking*, vol. 9, no. 2, pp. 414-434, April 2023.
 10. A. Jee, K. Janghel and S. Prakriya, “Performance of Adaptive Multi-User Underlay NOMA Transmission With Simple User Selection,” *IEEE Transactions on Cognitive Communications and Networking*, (Impact Factor: 7.4), vol. 8, no. 2, pp. 871-887, June 2022.
 11. K. Agrawal, A. Jee and S. Prakriya, “Performance of SWIPT in Cooperative Networks with Direct Link and Nonlinear Energy Harvesting at the Battery-Assisted Relay,” *IEEE Transactions on Green Communications and Networking*, (Impact Factor: 5.3), vol. 6, no. 2, pp. 1198-1215, June 2022.
 12. A. Jee, K. Agrawal and S. Prakriya, “A Coordinated Direct AF/DF Relay-Aided NOMA Framework for Low Outage,” *IEEE Transactions on Communications*, vol. 70, no. 3, pp. 1559-1579, March 2022.
 13. A. Jee, S. Hoque and W. Arif, “Performance analysis of secondary users under heterogeneous licensed spectrum environment in cognitive radio ad hoc networks,” *Annals of Telecommunications*, vol. 75, pp. 407-419, 2020.
 14. S. Debnath, A. Jee, D. Sen, S. Baishya and Wasim Arif, “Energy Efficient Optimal Resource Allocation in Multi-RAT Heterogeneous Network,” *Applied Artificial Intelligence*, vol. 35, no. 15, pp. 2246-2275, 2021.
 15. T. -H. Vu, A. Jee, D. B. da Costa and S. Kim, “STAR-RIS Empowered NOMA Systems With Caching and SWIPT,” *IEEE Open Journal of the Communications Society*, vol. 5, pp. 379-396, 2024.
 16. P. Saikia, A. Jee, K. Singh, C. Pan, W. -J. Huang and T. A. Tsiftsis, “RIS-Aided Integrated Sensing and Communication Systems: STAR-RIS Versus Passive RIS?,” *IEEE Open Journal of the Communications Society*, vol. 5, pp. 7954-7973, 2024.

Conference Publications

1. S. Singhal, A. Jee and S. Prakriya, "Performance of Ambient Backscatter-Assisted NOMA signalling in an mMTC Network," *2024 IEEE 100th Vehicular Technology Conference (VTC2024-Fall)*, Washington, DC, USA, 2024.
2. P. Saikia, A. Jee, K. Singh, T. A. Tsiftsis and A. -A. A. Boulogeorgos, "Hybrid-RIS Empowered UAV-Aided ISAC Systems," *2024 IEEE 100th Vehicular Technology Conference (VTC2024-Fall)*, Washington, DC, USA, 2024.
3. L. R. Singh, W. Arif and A. Jee, "Reduction of Computational Time Complexity in PD-NOMA," *IEEE 8th International Conference on Information and Communication Technology (CICT)*, Prayagraj UP, India, 2024.
4. A. Jee and S. Prakriya, "Performance of a NOMA/OMA Scheme with Novel Power Control and Mode Selection," *ICC 2023 - IEEE International Conference on Communications (ICC)*, Rome, Italy, 2023.
5. D. Dey, K. Agrawal, A. Jee and S. Prakriya, "On Partitioning Enabled IRS-Assisted Co-operative NOMA with Mode Switching," *IEEE Global Communications Conference (GLOBECOM)*, Kuala Lumpur, Malaysia, 2023.
6. P. Saikia, A. Jee, K. Singh, C. Pan, T. A. Tsiftsis, and W. J. Huang, "RIS-Aided Integrated Sensing and Communications," *IEEE Global Communications Conference (GLOBECOM)*, Kuala Lumpur, Malaysia, 2023.
7. P. Saikia, A. Jee, K. Singh, S. Mumtaz and W. J. Huang, "STAR-RIS-Aided Full-Duplex ISAC Systems: A Novel Meta Reinforcement Learning Approach," *IEEE Global Communications Conference (GLOBECOM)*, Kuala Lumpur, Malaysia, 2023.
8. A. Jee, K. Agrawal and S. Prakriya, "Performance of a New Framework for Coordinated Direct AF Relay-Aided Downlink NOMA," *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Helsinki, Finland, 2021.
9. D. Johari, A. Jee, K. Agrawal and S. Prakriya, "Performance of a CDRT based Underlay NOMA with Combining at the Near User," *IEEE Vehicular Technology Conference (VTC)*, 2021.
10. K. Agrawal, A. Jee and S. Prakriya, "On Performance of Battery-Assisted SWIPT with Incremental Relaying and Nonlinear Energy Harvesting," *IEEE National Conference on Communications (NCC)*, Kanpur, India, 2021.
11. U. Makhanpuri, K. Agrawal, A. Jee and S. Prakriya, "Performance of Full-Duplex Cooperative NOMA Network with Nonlinear Energy Harvesting," *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Helsinki, Finland, 2021.
12. K. Janghel, A. Jee and S. Prakriya, "Performance of Underlay Cooperative Hybrid OMA/NOMA Scheme with User Selection," *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, London, UK, 2020.
13. A. Jee, S. Hoque, B. Talukdar and W. Arif, "Analysis of Link Maintenance Probability for Cognitive Radio Ad Hoc Networks," *IEEE 5th International Conference on Signal Processing and Integrated Networks (SPIN)*, Noida, India, 2018.

14. S. Debnath, A. Jee, S. Baishya and W. Arif, "Access Point Planning for Disaster Scenario using Dragonfly Algorithm," *IEEE 5th International Conference on "Signal Processing and Integrated Networks (SPIN)*, Noida, India, 2018.
15. A. Jee, S. Hoque and W. Arif, "Analysis of Non Completion Probability for Cognitive Radio Ad Hoc Networks," *IEEE Calcutta conference (CALCON)*, Kolkata, India, 2017.

Patent Applications

Primary Inventor in patent applications:

- Method and System for Dynamic Unequal Modulation with Adaptive Reliability in WLAN Systems, Application Number: 202541095285
- Method and System for Hierarchical CSI Compression and Feedback for Multi-AP Coordination in WLAN Systems, Application Number: 202541087674
- Method and System for Receive Beamform Acknowledgment Policy for Coordinated Beamforming in WLAN Systems, Application Number: 202541071448
- Method and System for Long Term and Short Term Updates in Coordinated Transmissions, Application Number: 202541064986
- Method and System for updating BSS Color for Coordinated Spatial Reuse and Coordinated Beamforming in WLAN Systems, Application Number: 202541050307
- Method and System for BSS Indication and Distinction for Coordinated Spatial Reuse and Coordinated Beamforming in Multi-AP WLAN Systems, Application Number: 202541012976
- Method and System to enable sounding operation for coordinated beamforming in Multi-AP WLAN network, Application Number: 202441078361
- Method and System for opportunistic coordinated spatial reuse and coordinated beamforming in wireless LAN systems, Application Number: 202441072638
- Method and System for sequence of operation for coordinated spatial reuse, Application Number: 202441059433
- Method and System for MCS assignment in UEQ-MCS in wireless LAN systems, Application Number: 202441036238

Co-inventor in patent applications:

- System and Method of NPCA Switchback Operation for Coordinated and Uncoordinated Access Points in WLAN System, Application Number: 202541071124
- Method and System to Enable Coordinated Beamforming and Coordinated Spatial Reuse for Coordinated RTWT Negotiation and Operation in WLAN Systems, Application Number: 202511040047
- System and Method of Multi-AP Coordination for Co-hosted Set of APs, Application Number: 202511067546
- System and Method for Anchor Link Selection for Integrated Millimeter Wave, Application Number: 202541061658

- Method and System to Negotiate Roles for CFO Error Correction in Multi-AP Coordination in WLAN Systems, Application Number: 202541016904
- Method to Indicate Bandwidth of RTWT Operation of OBSS RTWT SP Based NPCA, Application Number: 202441081642
- Method and System for Priority of Transmission in CRTWT Scheduled Based Communication in Multi-AP WLAN Network, Application Number: 202441076704
- System and Method of Leaving a Coordination Group, Application Number: 202441075300
- Method to Enable Switching Back to Primary Channel of R-TWT SP Based NPCA Operation in WLAN Systems, Application Number: 202441074898
- Method and System for OBSS RTWT Schedule based non-primary channel access in WLAN Systems, Application Number: 202441067670
- System and Method of Joining a Coordination Group, Application Number: 202441067012
- Method and System of operation for CRTWT for MAP coordination in WLAN systems, Application Number: 202441063768
- Method and System for Multi-AP service discovery, Application Number: 202441058647
- Method and System for MCS assignment for UEQM, Application Number: 202441035216

Research Interest

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| • Next Generation Multiple Access Techniques | • 3GPP and Wi-Fi Standards |
| • Device-to-Device Communication | • Cognitive Radio |
| • Intelligent Reflecting Surfaces | • Cooperative communication |
| • Integrated Sensing and Communication | • Energy harvesting |
| • Backscatter Communication | • Age-of-Information |

Talks Delivered

- “Spectrally Efficient NOMA Signaling in Cooperative, Cognitive and Backscatter Communications” IIIT Sri City, December, 2023.
- “Promising Techniques for Next Generation Wireless Communication Networks” ICFAI University Dehradun, Feb. 2022.

Teaching Assistant — IIT Delhi

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|-------------------------------------|--|
| • Intro. to Electrical Engineering | Sem II 2021-22, Sem I 2020-21, Sem I 2019-20 |
| • Digital Communications | Sem I 2021-22, Sem I 2020-21, Sem I 2019-20 |
| • Signals and Systems | Sem II 2018-19, Sem I 2019-20 |
| • Wireless Communication Laboratory | Sem II 2018-19 |

Awards and Achievements

- 2025 Exemplary Reviewer for IEEE Communications Letters, IEEE Communication Society
- Best PhD Thesis Award in the Graduate Thesis Evaluation in Seven minutes (GraTE 7), IEEE Communication Society, IEEE Future Networks World Forum (FNWF) 2025
- Distinction in Doctoral Research (awarded to 10% of the graduates), IIT Delhi5.
- Invention Quality Champions for team contributions, SRI-B.
- Outstanding Academic Performance Award, IIT Delhi.
- Best Poster Award, National Conference on Communications (NCC) 2023, IIT Guwahati.
- Postgraduate Silver Medal for securing the highest CPI, NIT Silchar.
- Distinction for B.Tech degree, ICFAI Undiversity Dehradun.
- Research Excellence Travel Award, IIT Delhi.
- IEEE ComSoc Student Travel Grant, IEEE ICC 2023.
- CSIR Foreign Travel Grant to attend an international scientific event.
- Financial Grant from the SERB, DST to present a paper in conferences abroad.
- Research Scholar Travel Award, IIT Delhi.
- MHRD scholarship for M.Tech and Ph.D. (July 2016 – July 2023).
- Scholarship based on the merit list (50% of semester fee) in each semester of B.Tech.

Technical Program Committee (TPC) member

- IEEE GLOBECOM 2023,2024 & 2025
- IEEE ICC 2024,2025 & 2026
- IEEE PIMRC 2024 & 2025
- IEEE WCNC 2024
- IEEE VTC 2023-Spring, 2024-Spring, 2024-Fall & 2025-Fall

Reviewer Roles

IEEE Journal on Selected Areas in Communications, IEEE Transactions on Communications, IEEE Transactions on Wireless Communications, IEEE Transactions on Cognitive Communications and Networking, IEEE Transactions on Green Communications and Networking, IEEE Transactions on Vehicular Technology, IEEE Communications Letters, IEEE Wireless Communications Letters, IEEE Transactions on Industrial Informatics, IEEE Transactions on Network and Service Management, IEEE Transactions on Network Science and Engineering, IEEE Internet of Things Journal, IEEE Systems Journal, IEEE Transactions on Intelligent Transportation Systems, IEEE Transactions on Information Forensics and Security, IEEE Internet of Things Magazine, IEEE Access, IEEE Sensors Letters, IEEE VTC, IEEE ICC, IEEE GLOBECOM, IEEE WCNC, IEEE INFOCOM, IEEE CCNC, IEEE PIMRC

Professional Membership

- Member of IEEE # 94441863, 2017-Present