Dr. Prabhat Kumar Sharma

ECE-002, Electronics and Communication Engineering
Visvesvaraya National Institute of Technology, Nagpur – Maharashtra-440010

+91-8860532330 • +91-7122801851
prabhatsharma@ece.vnit.ac.in
https://ece.vnit.ac.in/people/pksharma/ •

Research Interests

1. 6G Wireless communication systems
   - physical layer aspects of wireless communications, intelligent-reflecting surfaces assisted systems, **integrated sensing and communication systems**
   - **AI/ML** for communications, Semantic communications, **quantum communications**
   - Circuit design for high speed communication systems
2. Molecular and biological communications.
   - nature inspired biological communications.
   - molecular communications over diffusive channels

Employment Profile

- **Visvesvaraya National Institute of Technology, Nagpur** — **Assistant Professor-Grade I**
  Department of Electronics and Communication Engineering — *May 2020 Onwards*
- **University of Southern California, Los Angeles** — **Visiting Researcher**
  Ming Hsieh Department of Electrical and Computer Engineering — *Sept 2023-March 2024*
- **Visvesvaraya National Institute of Technology, Nagpur** — **Assistant Professor-Grade II**
  Department of Electronics and Communication Engineering — *June 2015-May 2020*

  About Institute Visvesvaraya National Institute of Technology (VNIT), Nagpur is leading public technical university in India. It is an institute of National Importance established by the act of Indian parliament. (Website: www.vnit.ac.in)

  Job Description Apart from conducting theory and laboratory classes for under graduate and graduate students, the high quality research outputs are expected in terms of innovation, publication and Ph.D. guidance. The job responsibility also includes leading the research group in the areas of wireless communication systems and writing research grant proposals and successful execution of the grants received. I am currently serving as the Nodal Officer and coordinator of VNIT 5G lab supported by Department of Telecommunications (DoT), Government of India. Moreover, I am also actively contributing for various administrative roles such as NEP 2020 task force member at VNIT, NIRF committee member, Wardenship etc.

Academic Qualifications

- **University of Delhi, New Delhi, India**
  Ph.D., Wireless Communication, Supervisor: Dr. Parul Garg — *2015*
  Topic: Performance Analysis of Cooperative Communication Systems over Fading Channels

- **Malaviya National Institute of Technology, Jaipur, India**
  M.Tech., VLSI-Design, Aggregate ***CGPA*** *8.52* *2009*
- **Uttar Pradesh Technical University, Lucknow, India**
  B.Tech., Electronics & Communication Engineering, Aggregate ***Percentage*** *77.2(Hons)* *2007*

Start-up Project

- **SARVAKSH**
  Agency: DRISHTI Foundation, IIT Indore.
  Total Grant: Upto INR 110 Lakh.

Sponsored Research Projects

I am actively involved in proposal writing for external research grants. I have successfully executed FOUR externally funded research projects as the chief investigator and FIVE funded projects are ongoing. The details of the project grants are as listed below:

Ongoing

Reconfigurable Intelligent Surface Assisted Integrated Sensing and Communication for 6G Networks
Sponsoring Agency: Department of Telecommunications, (GoI).
Duration: 3 years (2024-2027)
Budget: INR 163.74 Lakhs
Role: Principal investigator

Description: The incorporation of RIS technology with 5G signals offers a compelling path for researching and developing efficient methods to realize ISAC functionalities and demonstrate the genuine capabilities of this integration in tackling real-world challenges. With these motivations, this proposal aims to investigate and develop a test-bed for a novel RIS-assisted Integrated Sensing and Communication (ISAC) system, leveraging the unique capabilities of RIS technology to partition sensing and communication elements.

BB84 Protocol Simulation Toolbox Development for Secured Quantum Communication in 6G Networks
Sponsoring Agency: Department of Telecommunications, (GoI).
Duration: 3 years (2024-2027)
Budget: INR 16.8 Lakhs
Role: Co-Principal investigator

Description: this project aims to develop a comprehensive BB84 simulator for the prospect users and researchers to simulate various use case scenarios of 6G and assess cost and quality trade-off before actual implementation of the protocol on the real hardware, particularly, considering the massive IoT devices sharing the same channel. In addition, this project will deliver a freely available source codes to simulate above functionalities for its pedagogical usage.

Design, Analysis and Testbed Development for Molecular Communication Systems
Sponsoring Agency: SERB CRG Scheme, (GoI).
Duration: 3 years (2023-2026)
Budget: INR 40 Lakhs
Role: Principal investigator

Description: Molecular communication (MolCom) is an evolving area of research in which the information between transmitter and receiver is exchanged through propagation of molecules. In the recent past, many opportunities for communication engineering have emerged to participate in this field to contribute to revolutionary applications. However, exploring the MolCom area requires knowledge from broad areas of communication engineering, biophysics, statistical signal processing and biochemistry and thus becomes a challenging task. This project aims to demonstrate the MolCom through an indigenous testbed and to show few use cases for solving the real world challenges like drunk driving, pollution monitoring, etc. This project also plans to design and characterize biosensors with communication abilities along with development of mathematical and simulation frameworks for analyzing the performance of MolCom systems.

Optically Controlled Intelligent Reflecting Surfaces for 6G Wireless Communication Systems
Sponsoring Agency: SERB POWER Scheme, (GoI).
Duration: 3 years (2023-2026)
Budget: INR 30 Lakhs
Role: Co-principal investigator

Description: Demand for ubiquitous connectivity, surge in the data rates, higher density of the connected devices, almost real-time low latency, improved reliability, is required to be met by the upcoming wireless communication technology applications such as internet of things (IoT), industry 4.0, vehicle to everything (V2X) communication, unmanned aerial vehicles (UAVs), military surveillance, etc. These demands are expected to be met by the sixth generation (6G) wireless technologies. In order to enable the upcoming wireless technologies to meet these expectations, at the physical layer, the RISs have been recently explored in the literature to counter the issues arising due to poor propagation environments. We aspire to fabricate the IRSs which can be controlled wirelessly through optical signals. Moreover, this project will also explore the use of these IRSs to switch the frequencies, from optical to microwave, and use this feature for multi-user hybrid RF/OWC systems. The main objective of this project is to demonstrate an optically controlled IRS assisted wireless communication system.

PIC based Tx and Rx with multiplexed optical channels employing polarization modulation and homodyne/heterodyne detection
Sponsoring Agency: Indian Space Research Organization (ISRO).
Duration: 3 years (2023-2026)
Budget: INR 39.24 Lakhs
Role: Co-Principal Investigator

Description: The integration of optical components and functions into a large scale PIC shows significant benefits when it is integrated into an optical communication system. It enables significant power, space and cost savings, new functionality and so new significant increasing transmission capacity of communication systems. In satellite communication multiple channels are being multiplexed to increase the throughput. Optical Tx using QPSK and DP-QPSK are commercially available. Multilevel modulation techniques like mQAM are also being used. Polarization modulation is a third dimension which can be included to increase the overall baud rate. In the present research, we propose to design Optical Tx and Rx chips using PICs employing multilevel modulation with amplitude, phase and polarization. Using this technique multiples optical channles with different modulation can be sent over single channel to achieve terabytes of data over single channel. In this research we intend to design photonic ICs for optical Tx and Rx with advance modulation techniques. Tx chip consists of multiple DFB lasers with electro optical modulators for amplitude/phase/polarization modulation. DC and RF interfaces will be integrated within the PIC. At the Rx side coherent detection techniques with homodyne/ heterodyne detection will be employed for multiple channels. Finally these designed Tx an Rx shall be packaged with RF, DC and Optical interfaces.

Completed

4. **Analysis, Design and Implementation of Intelligent Reflecting Surfaces Assisted Wireless Communication Systems**
   Sponsoring Agency: Ministry of Electronics & Information Technology (MeitY), (GoI).
   Duration: 3 years (2021-2024)
   Budget: INR 56.8 Lakhs
   Role: Principal Investigator

   Description: The objective of this project is to design and fabricate intelligent reflecting surfaces (IRSs) for wireless communication systems and to analyse the performance of such systems. The suitability of the graphene as candidate material for IRSs is also being explored in collaboration with Materials engineering department.

3. **Channel Estimation for future generation wireless communications**
   Sponsoring Agency: SERB SIRE Scheme, (GoI).
   Duration: 06 Months (2023-2024)
   Budget: INR 16.99 Lakhs (approx)
   Role: Principal Investigator

   Description: This project is to be executed under SERB SIRE fellowship at University of Southern California, United States of America. The host faculty for the project is Prof. Urbashi Mitra.

2. **Full Duplex Wireless Communications: Performance Analysis and Implementation Issues**
   Sponsoring Agency: Science and Engineering Research Board, (Government of India).
   Duration: 3 years (2016-2019)
   Budget: INR 23.16 Lakhs
   Role: Principal Investigator

Description: This project was focused on the performance analysis of full-duplex (FD) wireless communication systems. Our main contribution in this project was the characterization of the self-interference (SI) with experimentally verified Rician distribution. The multi-user FD systems were explicitly studied and analyzed for various scheduling schemes. This project was completed with *VERY GOOD* grading from sponsoring agency.

1. **Development and Analysis of Spectrally Efficient Communication System for Future Generation IoT Applications**
   Sponsoring Agency: Ministry of Electronics & Information Technology (MeitY), (GoI).
   Duration: 2.5 years (2018-2020)
   Budget: INR 17.2 Lakhs
   Role: Principal Investigator

   Description: This grant was received as the award of the Visvesvaraya Young Faculty Research Fellowship. The objective of this research work was to study the efficient wireless communication technologies for internet of things (IoT) scenario. In particular, the avenues like power-line communication and molecular communications were explored for traditional and nano-biological systems.

Consultancy Projects

- **Human Animal Conflict Mitigation System (HACMS) at Tadoba-Andhari Tiger Reserve**
  Agency: Forest Department, Government of Maharastra.
  Cost: INR 4.72 Lakh.

- **RFP for AI-Based Forest Fire Detection System at Tadoba-Andhari Tiger Reserve**
  Agency: Forest Department, Government of Maharastra.
  Cost: INR 7.08 Lakh.

Patents

- **Reconfigurable Intelligent Surface-Assisted Smart Wi-Fi**
  Application number: TEMP/E- 1/96938/2023- MUM
  Reference number: 2023210820117
  Status: GRANTED
  Investigators: Anamika Singh, Prabhat Kumar Sharma, Chandresh Dhote, Parul Garg
- **A conductive screen printable graphene ink and method of preparation thereof**
  Application number: TEMP/E-1/104076/2023-MUM
  Reference number: No.202321087910 A
  Status: Published
  Investigators: Ajeet Shrivastav, Prabhat Kumar Sharma and Nitin Linge
- **Digitally Coded Carbon Ink-Based Reflective Surface**

Application number: TEMP/E-1/3588/2025-MUM
Reference number: 202521002992
Status: GRANTED
Investigators: Anamika Singh, Prabhat Kumar Sharma, Chandresh Dhote, Ajeet Shrivastav

- **Water Bill Dispensing system using Molecular Communication**
  Application number: TEMP/E-1/36867/2025-MUM
  Reference number: 202521033157
  Status: Published
  Investigators: Anamika Singh, Prabhat Kumar Sharma, Vedant Lokhande, Praneeth Mangala
- **Reconfigurable Intelligent Surface Device and System for Wireless Power Transfer and Energy Harvesting**
  Application number: TEMP/E-1/40349/2025-MUM
  Reference number: 202521036362
  Status: Filed
  Investigators: Anamika Singh,Chandresh Dhote, Prabhat Kumar Sharma

Ph.D. Supervision

1. Ms. Neelima Agrawal(Jan 2016 - Mar 2019): "Power Line Communication Systems in Laplacian Impulsive Transients". Status: **Awarded**.
2. Mr. Prasanna Raut (Jul 2016 -Aug 2020): "Pair Scheduling in Multi-User Full Duplex Wireless communication Systems". Status: **Awarded**.
3. Mr. Lokendra Chouhan (Jul 2017 - June 2021): "Diffusive Molecular Communication for Nano-Networks: Performance Analysis and Optimization". Status: **Awarded**.
4. Ms. Vaijayanti Panse (Jan 2019 - Feb 2023): "Performance Analysis of Energy Harvesting in Decode and Forward Cooperative Communication Systems". Status: **Awarded** (Jointly with Dr. Tapan Jain at IIIT Nagpur).
5. Mr. Sunil Kumar (July 2019 -): "Game Theoretic Analysis of Molecular Communications Systems ". Status: **Awarded** (Jointly with Prof. M. R. Bhatnagar, IIT Delhi).
6. Ms. Saroj Sahoo (Aug 2020 -): "Wireless communications (Topic yet to be finalized)". Status: Ongoing (Jointly with Dr. Tapan Jain at IIIT Nagpur).
7. Ms. Neha Bhusari (Jan 2021 -): "Molecular communication (Topic yet to be finalized)". Status: Ongoing (Jointly with Prof. A. G. Keskar).
8. Mr. Nitin Linge (July 2021 -) as co-supervisor: "Intelligent Reflecting Surfaces (Topic yet to be finalized)". Status: Ongoing (Jointly with Dr. A. K. Srivastava).
9. Ms. Prerna Saharia (Aug 2023 -) as co-supervisor: "Semantics Communications (Topic yet to be finalized)". Status: Ongoing (Jointly with Prof. Parul Garg at NSUT New Delhi).
10. Ms. Vaidehi Padmawar (July 2024 -) : "Biosensor for Molecular communications (Topic yet to be finalized)". Status: Ongoing.
11. Mr. S. Raghavan (July 2025 -) : "Wireless communications (Topic yet to be finalized)". Status: Ongoing.
12. Ms. Rajeshwari S. (July 2025 -) : "Wireless communications (Topic yet to be finalized)". Status: Ongoing.
13. Ms. Sahana Kanthi (July 2024 -) : "Integrated Sensing and Communications communications (Topic yet to be finalized)". Status: Ongoing.
14. Mr. Rohit Raut (July 2024 -) : "AI in integrated sensing and communications (Topic yet to be

finalized)". Status: Ongoing.

Awards and Recognitions

- SERB SIRE Fellowship 2023-24.
- URSI/InRaSS Young Indian Radio Scientist Award 2019.
- Recipient of Visvesvaraya Young Faculty Research Fellowship.
- Recipient of SERB Early Career Research Award.
- Received the Best Paper Award (Poster Category) at IEEE COMSNETS 2018.
- Elevated to Senior Member, IEEE.
- SERB International Travel Support for participation in IEEE International Conference on Communications -2015 at London U.K.
- Best Student Paper Award at ICEIT Conference on Advances in Mobile Communication, Networking, and Computing.
- National Instruments Travel Fellowship to participate in NCC 2015 at IIT Bombay, Mumbai.
- Travel Mobility Grant from Technische Universität München for the participation in 3rd research opportunities week.
- Conference Fellowship:22nd IEEE International Conference on VLSI Design 2009, New Delhi.

Refereed Journal Publications

Reverse chronological and sequence order

Total Impact Factor: 292.727 ***as per Journal Citation Reports©(JCR) from Clarivate Analytics***. Average IF per paper $= 4.44$. The IEEE journals are highlighted in blue.

2026

72. Linge, N., Bohane, P., **Prabhat Kumar Sharma** and Srivastav A.K., "Electrolyte-Mediated Defect Engineering in Electrochemically Exfoliated Graphene" to appear in Journal of Electronic Materials, Jan 2026. Jan. **2026**.
Impact Factor 2.1.

2025

71. Sai Krishna C. T., Lokendra Chouhan, Abhishek Kumar Gupta, Rik Dey, Eswar Kadali, Sairam Mente, Rituraj and **Prabhat Kumar Sharma**,"Molecular Communication in Bounded Spherical Region with Anomalous Diffusion Phenomenon" in *IEEE Transactions on Molecular, Biological and Multi-Scale Communications*, Dec. **2025**.
Impact Factor 2.2.

70. **Prabhat Kumar Sharma**, M Femminella, S Kumar "Understanding Communicable Diseases Through the Lens of Molecular Communications (Guest Editorial)" in *IEEE Transactions on Molecular, Biological and Multi-Scale Communications*, Oct. **2025**.
Impact Factor 2.2.

69. D Sai Swokhya, **Prabhat Kumar Sharma**, Lokendra Chouhan and B. Das, Anamika Singh and M.-S. Alouni "Localization of Nanomachines in Anomalous Diffusion Based Molecular Communica-

tion" to appear in *IEEE Transactions on Molecular, Biological and Multi-Scale Communications*, Oct. **2025**.
Impact Factor 2.2.

68. Neha Bhusari, **Prabhat Kumar Sharma**, Lokendra Chouhan and Avinash Keskar "Molecular Communication over Anomalous Spatio-temporal Diffusive Channels" to appear in *IEEE Communications Letters*, Oct. **2025**.
Impact Factor 4.1.

67. Sunil Kumar **Prabhat Kumar Sharma**, Anamika Singh, Adam Noel and Manav Bhatnagar "Tit-for-Tat or Hold a Grudge: Impact of Punishment on Strategic Interactions of Nano-Machines" to appear in *IEEE Transactions on Molecular, Biological and Multi-Scale Communications*, Jul. **2025**.
Impact Factor 2.3.

66. Chandresh Dhote, Anamika Singh, and **Prabhat Kumar Sharma**, "RIS Assisted Near Field Communication in Sub-6 GHz Band: Experimental Perspective," *IEEE Communications Letters* , May **2025**.
Impact Factor 4.4.

65. Chandresh Dhote, Anamika Singh, **Prabhat Kumar Sharma**, Pawan Bohane and Ajeet Kumar Srivastav, "Digitally Coded Carbon Ink Based Reflective Surface (RS) for Anomalous Reflection," *Journal of Physics D: Applied Physics* , May **2025**.
Impact Factor 3.1.

64. S. Kurma, K. Singh, **Prabhat Kumar Sharma**, Chih-Peng Li, and Theodoros A. Tsiftsis, "On the Performance Analysis of Full-Duplex Cell-Free Massive MIMO with User Mobility and Imperfect CSI," *IEEE Transactions on Communications*, vol. 73, no. 5, May **2025**.
Impact Factor 8.3.

2024

63. S. Kurma, K. Singh, **Prabhat Kumar Sharma**, Chih-Peng Li, and Theodoros A. Tsiftsis, "URLLC-Enabled Full-Duplex Cell-Free Massive MIMO Systems With Mobility," *IEEE Open Journal of the Communications Society*, vol. 5, pp. 3196-3211, 2024 Oct **2024**.
Impact Factor 6.1.

62. Sunil Kumar **Prabhat Kumar Sharma**, and Manav Bhatnagar "Game of Resource Exploitation in Molecular Communications with Unintended Nanomachine" to appear in *IEEE Transactions on Molecular, Biological and Multi-Scale Communications*,vol. 10, no. 4, pp. 595-601, Dec. **2024**.
Impact Factor 2.3.

61. Sunil Kumar **Prabhat Kumar Sharma**, and Manav Bhatnagar "Game-theoretic Analysis of Fusion Rules over Molecular Reporting Channels", *IEEE Transactions on NanoBioscience*, vol. 23, no. 1, pp. 101-108, Jan. **2024**.
Impact Factor 4.4.

2023

60. S. C. Sajan, A. Singh, **Prabhat Kumar Sharma** and S. Kumar,"$Si_3N_4 - SiO_2$-Based Silicon Photonics Nano-Biosensor for Molecular Communication" *IEEE Transactions on Molecular, Biological and Multi-Scale Communications*, vol. 9, no. 3, pp. 340-345, Sept. **2023**.
Impact Factor 2.3.

59. Keshav Singh, Prasanna Raut, Sandeep Kumar Singh **Prabhat Kumar Sharma** and Chih-Peng Li, "Laser-Powered Multi-UAV URLLC Systems: Reliability and Scheduling Performance Analysis", *IEEE Transactions on Vehicular Technology,*vol. 72, no. 11, pp. 14615-14630, Nov. **2023**.
Impact Factor 6.8.

58. C. Waghmare, A. Kothari and **Prabhat Kumar Sharma**, "Performance Analysis of Classical Data Transmission over a Quantum Channel in the Presence of Atmospheric Turbulence" *IEEE Communications Letters*, vol. 27, no. 8, pp. 2127-2131, Aug. **2023**.
Impact Factor 4.4.

57. K. Singh, F. Karim, S. K. Singh, **Prabhat Kumar Sharma**, S. Mumtaz and M. F. Flanagan, "Performance Analysis of RIS-Assisted Full-Duplex Communications with Infinite and Finite Block-length Codes," *IEEE Transactions on Communications*, vol. 71, no. 7, pp. 4262-4282, July **2023**.
Impact Factor 8.3.

56. S. Dhok and **Prabhat Kumar Sharma**, "Infinite and Finite Block-Length FD Transmissions With Spatially-Correlated RIS Channels," *IEEE Transactions on Wireless Communications*, vol. 22, no. 2, pp. 1060-1071, Feb. **2023**.
Impact Factor 10.7.

55. S. C. Sajan, A. Singh, **Prabhat Kumar Sharma** and S. Kumar, "Silicon Photonics Biosensors for Cancer Cells Detection—A Review," IEEE Sensors Journal, vol. 23, no. 4, pp. 3366-3377, Feb. **2023**.
Impact Factor 4.5.

54. **Prabhat Kumar Sharma**, N. Sharma S. Dhok, and A. Singh, "RIS-assisted FD Short Packet Communication with Non-linear EH" *IEEE Communications Letters*, vol. 27, no. 2, pp. 522-526, Feb. **2023**.
Impact Factor 4.4.

53. Sravani Kurma, **Prabhat Kumar Sharma** et.al., "URLLC Based Cooperative Industrial IoT Networks with Non-Linear Energy Harvesting" *IEEE Transactions on Industrial Informatics*, vol. 19, no. 2, pp. 2078-2088, Feb. **2023**.
Impact Factor 9.9.

2022

52. S. Dhok and **Prabhat Kumar Sharma**, "Rate-Splitting Multiple Access with STAR RIS over Spatially-correlated Channels" *IEEE Transactions on Communications*, pp 6410-6424, Vol 70, Issue 10, Oct **2022**.

Impact Factor 8.3.

51. D. Shambharkar, S. Dhok, A. Singh, and **Prabhat Kumar Sharma**, "Rate-splitting Multiple Access for RIS-aided Cell-edge Users with Discrete Phase-shifts" *IEEE Communications Letters*, vol. 26, no. 11, pp. 2581-2585, Nov. **2022**.
Impact Factor 4.4.

50. G. Sarath, R. Singh, S. Dhok, **Prabhat Kumar Sharma**, and P. Kumar "Downlink URLLC System Over Spatially-correlated RIS Channels and Electromagnetic Interference" *IEEE Wireless Communications Letters*, vol. 11, no. 9, pp. 1950-1954, Sept. **2022**.
Impact Factor 5.5.

49. Sravani Kurma, **Prabhat Kumar Sharma**, Shivani Dhok, Keshav Singh and C. P. Li 'Adaptive AF/DF Two-way Relaying in FD Multi-user URLLC System with User Mobility" *IEEE Transactions on Wireless Communications*, vol. 21, no. 12, pp. 10224-10241, Dec. **2022**.
Impact Factor 10.7.

48. Mayur Katwe, Keshav Singh, **Prabhat Kumar Sharma**, Chih-Peng Li and Zhiguo Ding "Dynamic User Clustering and Optimal Power Allocation in UAV-Assisted Full-Duplex Hybrid NOMA System", *IEEE Transactions on Wireless Communications,*, vol. 21, no. 4, pp. 2573-2590, Apr **2022**.
Impact Factor 10.7.

47. Mayur Katwe, Keshav Singh, **Prabhat Kumar Sharma** and Chih-Peng Li, "Energy Efficiency Maximization for UAV-Assisted Full-Duplex NOMA System: User Clustering and Resource Allocation", *IEEE Transactions Green Communications and Networking,*, vol. 6, no. 2, pp. 992-1008 June **2022**.
Impact Factor 6.7.

46. Lokendra Chouhan, Prabhat Kumar Upadhyay , **Prabhat Kumar Sharma**, and A. Salhab "On Anomalous Diffusion of Devices in Molecular Communication Systems" to appear in *IEEE Transactions on Molecular, Biological, and Multi-Scale Communications*, Apr **2022**.
Impact Factor 2.3.

45. Shivani Dhok, Paritosh Peshwe and **Prabhat Kumar Sharma**, "Cognitive Molecular Communication in Cylindrical Anomalous-Diffusive Channel", *IEEE Transactions on Molecular, Biological, and Multi-Scale Communications*, vol. 8, no. 3, pp. 158-168, Sept. **2022**.
Impact Factor 2.3.

44. Shivani Dhok, Lokendra Chouhan, Adam Noel and **Prabhat Kumar Sharma**, "Cooperative Molecular Communication in Drift-Induced Diffusive Cylindrical Channel", *IEEE Transactions on Molecular, Biological, and Multi-Scale Communications*, vol. 8, no. 1, pp. 44-55, Mar. **2022**.
Impact Factor 2.3.

43. Kapal Dev et.al. "DDI: A Novel Architecture for Joint Active user Detection and IoT Device Identification in Grant-Free NOMA Systems for 6G and Beyond Networks", *IEEE Internet of Things Journal*, vol. 9, no. 4, pp. 2906-2917, Feb **2022**.
Impact Factor 8.9.

42. Vaijayanti Panse, Tapan Jain, **Prabhat Kumar Sharma**, and Ashwin Kothari, "Digital Self-Interference Cancellation in The Era of Machine Learning A Comprehensive Review" to appear in *Elsevier Physical Communications*, vol. 50, Feb. **2022**.
Impact Factor 2.2.

41. Tushar Muratkar, Ankit Bhurane, **Prabhat Kumar Sharma**, Ashwin Kothari, "Analysis of Multi-Tag Ambient Backscatter Communication under Time-Selective Fading" *IEEE Communications Letters*, vol. 26, no. 1, pp. 40-43, Jan. **2022**.
Impact Factor 4.4.

40. Tushar Muratkar, Ankit Bhurane, **Prabhat Kumar Sharma**, Ashwin Kothari, "Physical Layer Security Analysis in Ambient Backscatter Communication with Node Mobility and Imperfect Channel Estimation" *IEEE Communications Letters*, vol. 26, no. 1, pp. 27-30, Jan. **2022**.
Impact Factor 4.4.

2021

39. Tushar Muratkar, Ankit Bhurane, **Prabhat Kumar Sharma**, Ashwin Kothari, "Ambient Backscatter Communication with Mobile RF Source for IoT-based applications" to appear in *Elsevier AEU Journal of Electronics and Communication Engineering*, vol 141, Nov. **2021**.
Impact Factor 3.2.

38. Swapnaja Deshpande, Mona Agrawal, **Prabhat Kumar Sharma**, and Swaran Ahuja, "Mitigating Pilot Contamination in Rician Faded Massive MIMO 5G Systems Using Enhanced Zero Forcing Precoding and Ring Partitioning" *Elsevier Physical Communications*, vol 49, Dec. **2021**.
Impact Factor 2.2.

37. **Prabhat Kumar Sharma**, Prasanna Raut, T. A. Tsiftsis and Paritosh Peshwe, "Cognitive D2D Finite Blocklength Transmissions with the Presence of Time-Selective Interference" *IEEE Transactions on Vehicular Technology*, vol. 70, no. 11, pp. 12215-12219, Nov. **2021**.
Impact Factor 7.1.

36. Shivani Dhok, Prasanna Raut, **Prabhat Kumar Sharma**, Keshav Singh and Chih-Peng Li, "Non-Linear Energy Harvesting in RIS-assisted URLLC Networks for Industry Automation", *IEEE Transactions on Communications*,, vol. 69, no. 11, pp. 7761-7774, Nov. **2021**.
Impact Factor 8.3.

35. Prasanna Raut, **Prabhat Kumar Sharma**, Keshav Singh and Chih-Peng Li, "On Scheduling

Performance of Multi-user Full-duplex Two-way Relaying System with Rician Distributed RSI" *IEEE Transactions on Wireless Communications*, vol. 20, no. 7, pp. 4657-4671, Jul. **2021**.
Impact Factor 10.7.

34. Anshul Maloo and **Prabhat Kumar Sharma** "Full Duplex Wireless Communication with Dynamic Buffer Aided MAC Protocol", *Elsevier AEU International Journal of Electronics and Communications*, vol 128, Jan 2021.
Impact Factor 3.2.

33. Ambrish, Parul Garg **Prabhat Kumar Sharma**, Akash Gupta "Secure Information Broadcasting Analysis in an Indoor VLC System with Imperfect CSI" *IET Communications*, vol. 15, iss. 4, pp. 526-536, Mar. 2021
Impact Factor 1.6.

32. Mayur Katwe, Pradnya Ghare, and **Prabhat Kumar Sharma**, "Robust NLOS Bias Mitigation for Hybrid RSS-TOA based Source Localization under Unknown Transmission Parameters" *IEEE Wireless Communications Letters*, vol. 10, no. 3, pp. 542-546, Mar. **2021**.
Impact Factor 5.5.

31. **Prabhat Kumar Sharma**, and Parul Garg, "Intelligent Reflecting Surfaces to Achieve the Full-Duplex Wireless Communication", *IEEE Communications Letters*, vol. 25, no. 2, pp. 622-626, Feb. **2021**.
Impact Factor 4.4.

2020

30. Lokendra Chouhan, **Prabhat Kumar Sharma** Prabhat Kumar Upadhyay, Parul Garg and Neeraj Varshney, "Impacts of Unintended Nanomachine in Diffusion-based Molecular Communication System", *IEEE Transactions on Molecular, Biological, and Multi-Scale Communications*, vol. 6, no. 3, pp. 210-219, Dec. **2020**.
Impact Factor 2.3.

29. Mayur Katwe, Pradnya Ghare, **Prabhat Kumar Sharma** and Ashwin Kothari, "NLOS Error Mitigation in Hybrid RSS-TOA based Localization through Semi-Definite Relaxation" *IEEE Communications Letters*, vol. 24, no. 12, pp. 2761-2765, Dec. **2020**.
Impact Factor 4.4.

28. Lokendra Chouhan, **Prabhat Kumar Sharma** and Adam Noel, "Molecular Communication in Fractional Diffusive Channel" *IEEE Communications Letters*, vol. 24, no. 10, pp. 2172-2176, **2020**.
Impact Factor 4.4.

27. Prasanna Raut, **Prabhat Kumar Sharma** et. al., "Power-Time Splitting-based Non-Linear Energy Harvesting in FD Short-Packet Communications" *IEEE Transactions on Vehicular Technology*, pp- 9146 - 9151 volume 69 , issue 8 , Aug **2020**.
Impact Factor 7.1.

26. Lokendra Chouhan, Neeraj Varshney and **Prabhat Kumar Sharma**, "On Gradient Descent Optimization in Diffusion-Advection based 3-D Molecular Cooperative Communication", *IEEE Transactions on NanoBioscience*, pp- 347 - 356 volume 19 , issue 3 , Jul **2020**.
Impact Factor 4.4.

25. Prasanna Raut, Tanvi Kaple and **Prabhat Kumar Sharma**, "Outage and Average Rate Performances of Full-duplex Multi-user AF Relay Systems with Time-selective Fading" *IEEE Systems Journal*, vol 14, Issue 3, pp 3390-3398, Sept **2020**,
Impact Factor 4.4.

24. Lokendra Chouhan, and **Prabhat Kumar Sharma**, "Molecular Communication in Three-Dimensional Diffusive Channel with Mobile Nanomachines", Elsevier Nano Communication Networks, volume 24, 2020, 100296 , May **2020**.
Impact Factor 2.9.

23. Prasanna Raut and **Prabhat Kumar Sharma**, "Outage Performance of Full-duplex Multi-User Relay Systems with Rician Distributed RSI", Wiley AGU Radio Science, vol 55, issue 8, pp. 1-9, Jun **2020**.
Impact Factor 1.678.

2019

22. Prasanna Raut, **Prabhat Kumar Sharma** and Ashwin Kothari, "FD Multi-User Mobile System with Timing Errors",*IEEE Communications Letters*, vol. 23, no. 12, pp. 2394-2397, Dec. **2019**.
Impact Factor 4.4.

21. Lokendra Chouhan, **Prabhat Kumar Sharma** and Neeraj Varshney, "Optimal Transmitted Molecules and Decision Threshold for Diffusive Molecular Channel with Mobile Nanomachines", *IEEE Transactions on NanoBioscience*, vol. 18, no. 4, pp. 651-660, Oct. **2019**.
Impact Factor 4.4.

20. Neelima Agrawal and **Prabhat Kumar Sharma**, T.A. Tsiftsis, "Multi-hop DF Relaying in NB-PLC System with Rayleigh Fading and Bernoullli-Laplacian Noise" *IEEE Systems Journal*, vol. 13, no. 1, pp. 357-364, March **2019**.
Impact Factor 4.4.

19. Shashikant, Parul Garg and **Prabhat Kumar Sharma** " Interference Mitigation Technique with Coverage Improvement in Indoor VLC System", *Transactions on Emerging Telecommunication Technologies*, vol 30, issue 2, Feb **2019**.
Impact Factor 3.6.

18. Santoshkumar Sabat, Prabhat Kumar Sharma and Abhay Gandhi, "Full-Duplex Mobile Cognitive Radio Network under Nakagami-m Fading Environment", *Elsevier AEU International Journal of Electronics and Communications*, vol 109, pp 136-145, Sept **2019**.
Impact Factor 3.2.

2018

17. Neelima Agrawal and **Prabhat Kumar Sharma**, "Error Performance of Hybrid Wireless-Power Line Communication System" *Elsevier AEU International Journal of Electronics and Communications*, Volume 95, pp 242-248, October **2018**.
Impact Factor 3.2.

16. Shashikant, Parul Garg and **Prabhat Kumar Sharma**, "Location Tracking for Indoor VLC Systems using Intelligent Photodiode Receiver" *IET Communications*, Volume 12, Issue 13, p. 1589 – 1594, August **2018**.
Impact Factor 1.6.

15. H. Wang, J. Wang, Guoru Ding, L. Wang, T. A. Tsiftsis and **Prabhat Kumar Sharma**, "Resource Allocation for Energy Harvesting-Powered D2D Communication Underlaying UAV-Assisted Networks" *IEEE Transactions on Green Communications and Networking*, vol. 2, no. 1, pp. 14-24, March **2018**.
Impact Factor 6.7.

14. Lokesh Gahane, **Prabhat Kumar Sharma**, N. Varshney, T. Tsiftsis and P. Kumar , "An Improved Energy Detector for Mobile Cognitive Users over Generalized Fading Channels" *IEEE Transactions on Communications*, vol. 66, no. 2, pp. 534-545, Feb. **2018**.
Impact Factor 8.3.

13. **Prabhat Kumar Sharma** and Ankur Bansal, "DF MISO System with Arbitrary Beamforming in Atmospheric Turbulence and Misalignment Errors" in *Photonic Network Communications*, vol 35, pp. 204-209, **2018**.
Impact Factor 1.328.

2017

12. Lokesh Gahane and **Prabhat Kumar Sharma**,"Performance of Improved Energy Detector with Cognitive Radio Mobility and Imperfect-CSI", *IET Communications*, Vol 11, Issue 12, pp. 1857 – 1863, August **2017**.
Impact Factor 1.6.

11. Santosh Kumar Sabat, **Prabhat Kumar Sharma** and Abhay Gandhi, "Full-Duplex Cooperative Spectrum Sensing with Primary User Activity in Cognitive Radio Networks" *IETE Technical Review (Taylor & Francis)*, vol 34, pp. 4-14, Oct **2017**.
Impact Factor 1.618.

10. **Prabhat Kumar Sharma**, A. Bansal, P. Garg, T.A. Tsiftsis, and R. Barrios,"Relayed FSO Communication with Aperture Averaging Receivers and Misalignment Errors", in *IET Communications*, vol. 11, no. 1, pp. 45-52, January **2017**.
Impact Factor 1.6.

2016

9. **Prabhat Kumar Sharma**, "Average symbol error rate for MQAM in generalized atmospheric turbulence and misalignment errors", *Optical Engineering*, 55(11), 111615 Oct **2016**.
Impact Factor 1.2.

8. Nagendra Babu K., **Prabhat Kumar Sharma** and Vinay Kumar, "Performance of a Bi-Directional Relaying System With One Full Duplex Relay", *Elsevier Int. J. Electron. Commun. (AEÜ)*, 70 (2016) 1426-1432, Aug **2016**.
Impact Factor 3.2.

7. Naman Joshi and **Prabhat Kumar Sharma**, "Performance of Wireless Optical Communication in $\mathcal{S}$-Distributed Turbulence" *IEEE Photonics Technology Letters*, vol. 28, no. 2, Jan **2016**.
Impact Factor 2.5

6. **Prabhat Kumar Sharma**, and Parul Garg "Achieving High Data Rates through Full Duplex Relaying in Multicell Environments" *Wiley Transactions on Emerging Telecommunication Technologies*, Volume 27, Issue 1, pages 111-121, Jan **2016**.
Impact Factor 2.5.

2015

5. **Prabhat Kumar Sharma**, Ankur Bansal and Parul Garg, "Relay Assisted Bi-directional Communication in Generalized Turbulence Fading" *IEEE Journal of Lightwave Technology*, vol. 33, no. 1, pp. 133-139, Jan **2015**.
Impact Factor 4.8

2014

4. **Prabhat Kumar Sharma**, and Parul Garg "Bi-directional Decode-XOR-Forward Relaying over $\mathcal{M}$-Distributed Free Space Optical Links" *IEEE Photonics Technology Letters*, vol.26, no.19, pp.1916-1919, Oct. **2014**.
Impact Factor 2.5
3. **Prabhat Kumar Sharma**, and Parul Garg "Coded Cooperation: Generalised Outage Analysis ", *IET Communications*, vol. 8, no. 6, pp. 972-979, Apr **2014**.
Impact Factor 1.6.
2. **Prabhat Kumar Sharma**, and Parul Garg "Performance Analysis of Full Duplex Decode and Forward Cooperative Relaying over Nakagami-m Fading Channels", *Wiley Transactions on Emerging Telecommunication Technologies*, vol. 25, no. 9, pp. 905-913, Sept. **2014**.
Impact Factor 2.5,

2013

1. **Prabhat Kumar Sharma**, and Parul Garg "An Optimal Power Distribution Algorithm for Two Time Slot Cooperative Diversity Protocols", *Engineering Letters*, vol 21, issue 3, pp 119-122, **2013**.

Book Chapter Publications

1. **Prabhat Kumar Sharma**, and Parul Garg "The Outage Analysis of Inter-relay Coded Cooperation over Nakagami-m Fading Channels", *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*, vol. 115, pp 197-206, Springer Berlin Heidelberg, 2013.

Conference Publications

Reverse chronological and sequence order

2025

55. C. Dhote, **Anamika Singh**, P. K. Sharma, Khagendra Joshi, Vivek Bohara, "Programmable 1-Bit RIS vs. Passive Metal Plate: A USRP-Based Experimental Study for 5G Sub-6 GHz", IEEE International Conference on Advanced Networks and Telecommunications System (ANTS) 2025, IIIT Delhi, 15-18 Dec, 2025

54. **Prabhat Kumar Sharma** and Urbashi Mitra, "2-Layer Hierarchical RSMA for STAR RIS Assisted Cell-edge Communications", 2025 National Conference on Communications (NCC) – 2025, IIT Delhi, India, March 2025.

53. L. Chouhan, **Prabhat Kumar Sharma** and Anamika Singh, "Insights into the Communication Performance of Interneuron Synaptic Interactions", 2025 National Conference on Communications (NCC) – 2025, IIT Delhi, India, March 2025. 52. Praneeth Mangala, Vedant Lokhande, Anamika Singh, Prabhat Sharma, "Design and Implementation of Guided Medium based Molecular Communication Test Bed", 2025 International Conference on Microwave, Optical, and Communication Engineering (ICMOCE), IIT Bhubneshwar, 23-25 May 2025.

51.Ashay Atkar, Harsh Saraf, Vinod Kumar,**Anamika Singh**,Prabhat Sharma, "PIC based Implementation of DPS-QKD Transceiver", 2025 International Conference on Microwave, Optical, and Communication Engineering (ICMOCE), IIT Bhubneshwar, 23-25 May 2025.

2024

50. S. K. Thakur, Chandresh Dhote and Anamika Singh and **Prabhat Kumar Sharma**, "THz Metamaterial-based Nano Biosensor for Cancer Cell Diagnosis", 16th International Conference on Fiber Opticsand Photonics (PHOTONICS – 2024), IIT Kharagpur, India, 12 – 15 Dec 2024.

49. C. Dhote, V. Bhavsar, Anamika Singh and **Prabhat Kumar Sharma**, "Optically-Driven RIS for Next-Generation 5G Networks," 2024 IEEE Microwaves, Antennas, and Propagation Conference (MAP-CON), Hyderabad, India, Dec 9-13, 2024.

48. C. Dhote, Anamika Singh and **Prabhat Kumar Sharma**, "Polarization-Independent RIS for Radiation Beam Steering," 2024 54th European Microwave Conference (EuMC), 24 - 26 Sept 2024, Paris, France, pp. 608-611, doi: 10.23919/EuMC61614.2024.10732656.

47. C. Dhote and Anamika Singh and **Prabhat Kumar Sharma**, "Liquid crystal-based programmable metasurface for terahertz beam manipulation ", SPIE Photonics West, 27 Jan - 1 Feb, 2024, San Francisco, USA.

46. S. K. Thakur, A. Atkar and Anamika Singh and **Prabhat Kumar Sharma**, "Integrated polarization tracking and control for enhanced performance in polarization multiplexed self-coherent detection ", SPIE Photonics West, 27 Jan - 1 Feb, 2024, San Francisco, USA,

2023

45. C. Dhote, Anamika Singh and **Prabhat Kumar Sharma**, "Graphene Based Reconfigurble Intelligent Surface for 6G Wireless Communication System," 2023 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), 11 - 15 Dec, 2023, Ahmedabad, India.

44. S. Kurma, K. Singh, P. K. Sharma and C. -P. Li, "DRL Approach for Spectral-Energy Trade-off in RIS-assisted Full-duplex Multi-user MIMO Systems," 2023 IEEE Wireless Communications and Networking Conference (WCNC), Glasgow, United Kingdom, pp. 1-6, 2023.

2022

43. D. Shambharkar, S. Dhok and **Prabhat Kumar Sharma**, "Performance Analysis of RIS Assisted RSMA Communication System," 2022 National Conference on Communications (NCC), 2022, pp. 227-232, virtual, India.

42. S. Dhok, P. Peshwe and **Prabhat Kumar Sharma**, "Cognitive Molecular Communication Inside a Cylindrical Diffusive Channel," 2022 IEEE International Conference on Signal Processing and Communications (SPCOM), July 2022, pp. 1-5, Bengaluru, India.

41. S. Dhok and **Prabhat Kumar Sharma**, "Frequency reconfigurable module aided multi-carrier communication through RIS," 2022 IEEE International Conference on Signal Processing and Communications (SPCOM), July 2022, pp. 1-5, Bengaluru, India.

40. S. Kurma, K. Singh, **Prabhat Kumar Sharma** and C. -P. Li, "Outage Probability Analysis of Uplink Cell-Free Massive MIMO with User Mobility," MILCOM 2022 - 2022 IEEE Military Communications Conference (MILCOM), Rockville, MD, USA, 2022, pp. 37-42,

39. S Dhok, S Khandare, Divyanshu Sambharkar and **Prabhat Kumar Sharma**,"Finite-block length transmissions for RIS-assisted communication system with spatial correlation," IEEE WCNC 2022, Texas, USA, 2022.

2021

38. D Vasudha, Jesta Asritha, Anshul Maloo and **Prabhat Kumar Sharma**,"Coverage Analysis of Cooperative Satellite-UAV-Terrestrial Communication System with Receiver Mobility," IEEE INDISCON 2021, Aug 27-29, 2021, Nagpur India, Aug 2021.

37. K. Sravani, **Prabhat Kumar Sharma**,V. H. Panse, and Keshav Singh, "Cooperative User Selection with Non-Linear Energy Harvesting in IoT Environment," IEEE VTC Fall, Virtual Conference, Sept. 2021.

2019

36. P. Raut and **Prabhat Kumar Sharma**, "Full-duplex Multi-user Pair Scheduling with Time-selective Fading and Imperfect CSI," 2019 National Conference on Communications (NCC), Indian Institute of Science, Bangalore, India, 2019

2018

35. N. Agrawal, **Prabhat Kumar Sharma** and A. Bansal, "Indoor Wired Communication for Connected Devices in Impulsive Transients," 2018 IEEE Globecom Workshops (GC Wkshps), Abu Dhabi, United Arab Emirates, 2018.

34. S. Sabat, **Prabhat Kumar Sharma** and A. Gandhi, "Spectrum Sensing in Mobile Full-Duplex Cognitive Radio," 2018 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), Indore, India, 2018.

33. Ambrish, Parul Garg and **Prabhat Kumar Sharma**, "Secured Selected Cooperative Communication Analysis in Cognitive Relay Networks" to appear IEEE International Conference on Communications (ICC), Kansas City, USA, May 2018.

32. **Prabhat Kumar Sharma**, Kamal Agrawal, and Parul Garg, "Multihop FD Relaying with Fixed and Random Phase Errors" 24th National Conference on Communications (NCC), IIT Hyderabad, India, Feb 2018.

31. Prasanna Raut and **Prabhat Kumar Sharma**, "Full-Duplex Multi-User Two-Way Relay Systems With Optimal Scheduling" COMSNETS 2018, Bengaluru, India, Jan 2018.

30. Santoshkumar Sabat, **Prabhat Kumar Sharma**, and Abhay Gandhi, "Cooperative Spectrum Sensing in Full-Duplex CRN with Primary User Activity" COMSNETS 2018, Bengaluru, India, Jan 2018.

2017

29. Lokesh Gahane, **Prabhat Kumar Sharma**, Parul Garg and T. A. Tsiftsis, "Improved Energy Detector with Cognitive User Mobility over Generalized Fading Channels" accepted in *IEEE Vehicular Technology Conference (VTC-Fall)*, Toronto, Canada, September 2017.

28. Haichao Wang, Guoru Ding, Jinlong Wang, Le Wang, Theodoros A. Tsiftsis and **Prabhat Kumar Sharma**, "Resource Allocation for the Energy Harvesting-Powered D2D Communication Underlaying Cellular Networks", in *IEEE International Conference on Communications (ICC)*, Paris, France, May 2017.

27. Ankur Bansal, **Prabhat Kumar Sharma**, and Manav Bhatnagar, "A Quartic Mixture Distribution and Its Application to ML Decoder Based Analysis of FSO Systems", in *IEEE International Conference on Communications (ICC) Workshops*, Paris, France, May 2017.

2016

26. **Prabhat Kumar Sharma**, Ankur Bansal, and Manav Bhatnagar,"Arbitrary Beamforming Based FSO MIMO System in Atmospheric Turbulence and Misalignment Errors", in *22nd National Conference on Communications (NCC)*, IIT Guwahati, India, 2016.

25. **Prabhat Kumar Sharma**, Parul Garg, and Ankita Gupta,"Coded Cooperation over Wireless Optical Links in Weak Turbulence with Misalignment Fading", in *22nd National Conference on Communications (NCC)*, IIT Guwahati, India, 2016.

2015

24. Ram Kumar Sharma, Hemani Kaushal, and **Prabhat Kumar Sharma**, "Analysis of indoor FSO link under diffused channel topology", *International Computing, Communication & Automation (ICCCA)*, Greater Noida, India, 2015.

23. Navita, Naman Joshi, **Prabhat Kumar Sharma**, and Swaran Ahuja, "Error Performance of SIM-MPSK over S-distributed FSO Links", *ICEIT Conference on Advances in Mobile Communications, Networking and Computing*, New Delhi, India, 2015.

22. Swapnaja Deshpande, Pooja Sabherwal, and **Prabhat Kumar Sharma**, "Multiuser Multicell MIMO Systems in Nakagami-m Fading Environment", *ICEIT Conference on Advances in Mobile*

Communications, Networking and Computing, New Delhi, India, 2015.

21. Ram Kumar Sharma, Hemani Kaushal, and **Prabhat Kumar Sharma**, "Simulation Based Analysis of Indoor FSO Link under Different Channel Topologies", *ICEIT Conference on Advances in Mobile Communications, Networking and Computing*, New Delhi, India, 2015.
20. Ram Kumar Sharma, Hemani Kaushal, and **Prabhat Kumar Sharma**, "Performance Analysis of Indoor Optical Wireless Links", *International conference on Wireless Networks and Embedded Systems (WECON)*, Punjab, India, 2015.
19. **Prabhat Kumar Sharma**, A. Bansal, P. Garg, T.A. Tsiftsis, and R. Barrios,"Performance of FSO Links under Exponentiated Weibull Turbulence Fading with Misalignment Errors", *IEEE International Conference on Communications (ICC)*, London, U.K., 2015.
18. Ankur Bansal, **Prabhat Kumar Sharma**, and Manav Bhatnagar,"DF Cooperation Over Gamma-Gamma Fading FSO Links with an Erroneous Relay", *IEEE International Conference on Communications (ICC)*, London, U.K., 2015.
17. Ankur Bansal, **Prabhat Kumar Sharma**, and Manav Bhatnagar,"Optimal and Suboptimal Decoding for SIM-BPSK Over Gamma-Gamma FSO Links with an Erroneous Relay",*21st National Conference on Communications (NCC)*, Indian Institute of Technology, Bombay, India, 2015.
16. **Prabhat Kumar Sharma**, and Parul Garg, Gaurav Sharma "The BER Analysis of The High Altitude Platforms Assisted Long Range Cooperative Communication" *International Conference on Signal Processing and Integrated Networks, SPIN-2015* , 2015.
15. Ankita Gupta, **Prabhat Kumar Sharma**, and Parul Garg, Gaurav Sharma "Coded Cooperation over Weak Turbulence Free Space Optical Regime" *International Conference on Signal Processing and Integrated Networks, SPIN-2015* , 2015.

2014

14. Gaurav Sharma, **Prabhat Kumar Sharma**, and Parul Garg, "Performance analysis of full duplex relaying in multicell environment," *International Conference on Advances in Computing, Communications and Informatics (ICACCI)*, pp.2501-2505, 24-27 Sept. 2014, Greater Noida, India.
13. Ankit Gupta, Samarth Mathur, Neelesh Singhal **Prabhat Kumar Sharma**, and Parul Garg "Outage analysis of Full Duplex Relaying with two Decode and Forward Relays" in *IEEE Annual India Conference*, Pune, India, 2014.
12. Parul Puri, Parul Garg, Mona Aggarwal, and **Prabhat Kumar Sharma**, "Multiple User Pair Scheduling in TWR-FSO Systems in Presence of Building Sway " in *IEEE SPCOM*, Indian Institute of Science, Bangalore, India, 2014.
11. Parul Puri, Parul Garg, Mona Aggarwal, and **Prabhat Kumar Sharma**, "Multiple User Pair Scheduling in Bi-directional Single Relay assisted FSO Systems " in *IEEE International Conference on Communications (ICC)*, pp.3401-3405, Sydney, Australia, June 2014.
10. **Prabhat Kumar Sharma**, and Parul Garg "Outage Analysis of Full Duplex Coded Cooperation", in *20th National Conference on Communications (NCC)*, Indian Institute of Technology, Kanpur, India, 2014.
9. Mona Aggarwal, Parul Garg, Parul Puri, and **Prabhat Kumar Sharma**, "Performance Analysis of Optical Wireless Communication System with a Decode and Forward Relay", in *International Conference on Signal Processing and Integrated Networks, SPIN-2014* , 2014.

2013

8. **Prabhat Kumar Sharma**, and Parul Garg, "Outage analysis of coded cooperation with multiple relays and Nakagami-m fading", in *IEEE International Conference on Communications (ICC)* , pp. 322-326, Budapest, Hungary 09-13 June, 2013.

7. **Prabhat Kumar Sharma**, and Parul Garg, "Outage Analysis of Full Duplex Decode and Forward Relaying Over Nakagami-m Channels", in *19th National Conference on Communication (NCC) 2013* , Indian Institute of Technology, New Delhi, India, Feb 16 - 18, 2013.

6. **Prabhat Kumar Sharma**, and Parul Garg, "Outage Analysis of Coded Cooperation with Two Relays and Nakagami-m Fading", in *IEEE International Conference on Electronics, Computing and Communication Technologies, 2013* , Bangalore, India, Jan 17 - Jan 19, 2013.

5. Parul Puri, Parul Garg, Mona Aggarwal, and **Prabhat Kumar Sharma**, "Outage Analysis of Two-Way Relay assisted FSO Systems over Weak Turbulence Region",in *IEEE Annual India Conference (INDICON)*, Mumbai, India, 2013.

2012

4. **Prabhat Kumar Sharma**, and Parul Garg "Error Analysis of Power Efficient Cooperation with Multiple Relays in Nakagami-m Fading", in *IEEE Annual India Conference (INDICON)*, Cochin, India, Dec 7-9, 2012.

Earlier

3. **Prabhat Kumar Sharma**, and Rakesh Bairathi, "Addressing Methods for the components of On-chip Communication", in *International Multiconference of Engineeers and Computer Scientist*, Hong Kong, vol II, pp795-797, March 17-19, 2010.

2. **Prabhat Kumar Sharma**, and Rakesh Bairathi, "Study and Analysis of the Behavior of Generic Mesh Architecture of NoC Routers", in *International Multiconference of Engineeers and Computer Scientist*, Hong Kong, vol II, pp1205-1207, March 17-19, 2010.

1. **Prabhat Kumar Sharma**, and Rakesh Bairathi, "Hierarchical Addressing Scheme for Network on Chip Applications", in *IEEE National Conference on Advanced communication and Applications*, Udaipur, India, 2009.

Professional Services

Editor

- Editor, IEEE Communications Letters, Aug 2025 Onwards.
- Editor, IEEE Transactions on Communications, April 2024 Onwards.
- Associate Editor for IEEE Wireless Communications Letters, Jan 2023 Onwards.
- Associate Editor for IEEE Transactions on Molecular Biological and Multicscale communications, Jan 2023 Onwards.
- Editor for Elsevier AEU Journal of Electronics and Communication Engineering, sept 2017-April 2024.

Conferences

- SAC-MBMC Chair at Globecom 2024, Capetown South Africa, December 2024.
- General Co-chair, 2nd IEEE International Conference on Paradigm Shifts in Communications,

Embedded Systems, Machine Learning and Signal Processing (PCEMS), April 2023, Nagpur.
- Organizing Secretary, 1st IEEE International Conference on Paradigm Shifts in Communications, Embedded Systems, Machine Learning and Signal Processing (PCEMS), May 2022, Nagpur.
- Organizing Secretary, IEEE India Council International Subsection Conference (INDISCON) 2021, Nagpur.
- Workshop co-chair at IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS) 2020, New Delhi.
- IEEE International Conference on Communications (ICC) 2015, 2019, 2020, 2022, 2023.
- IEEE Wireless Communications and Networking Conference (WCNC) 2013, 2014, 2015.
- National Conference on Communications (NCC) 2014, 2015, 2016, 2018, 2019.
- IEEE International Conference on Advanced Networks and Telecommunication Systems (ANTS) 2018, 2019.

Reviewer

- IEEE Trans. on Communication, IEEE Trans. on Wireless Communication, IEEE Trans. on Vehicular Technology, IEEE Journal of Selected Areas in Communications etc.

IEEE

- **Chair** IEEE Nagpur Subsection, 2023.
- **Chair** IEEE Nagpur Subsection, 2022.
- **Secretary** IEEE Nagpur Subsection, 2021.
- **Social Media Chair** IEEE Communications Society Technical Committee on Molecular Biological and Multiscale Communications, 2023-2024.

Membership

- **Senior Member, IEEE, IEEE Communications Society, IEEE Signal Processing Society.**
- **Member, IAENG**

Symposia/Courses/ Workshops Organized

1. **GIAN Course on Artificial Intelligence in Wireless Communication Networks**
Foreign Faculty : Prof. Arumugum Nallanathan, Queen Mary University of London, U.K.
Host Faculty : Dr. Prabhat Kumar Sharma
Schedule : 26-12-2022 to 30-12-2022
1. **First International Symposium on Molecular and Biological Communications (MBCom 2021)**
Endorsed by : IEEE ComSoc's MBMC-TC
Organizing Secretary : Dr. Prabhat Kumar Sharma
Schedule : 01-05-2021 to 05-05-2021
2. **GIAN Course on Fundamentals of Optical Wireless Communications**
Foreign Faculty : Dr. Julian Cheng, University of British Columbia, Canada
Host Faculty : Dr. Prabhat Kumar Sharma
Schedule : 14-01-2018 to 19-01-2018
3. **GIAN Course on Advanced Wireless Communication Technologies: A PHY-layer per-**

spective
Foreign Faculty : Dr. Theodoros A. Tsiftsis, Nazarbayev University, School of Engineering, Department of Electrical & Electronic Engineering, Kazakhstan
Host Faculty : Dr. Prabhat Kumar Sharma
Schedule : 12-12-2016 to 17-12-2016
4. **TEQIP-II sponsored workshop on Research Paradigms in Communication Engineering**
Coordinators : Dr. Prabhat Kumar Sharma and Prof. Abhay Gandhi
Schedule : 10-10-2016 to 15-10-2016

Courses Taught

- Information Theory and Coding
- Communication Theory
- Electronics Engineering
- Electromagnetic Field Theory
- Signals and Systems