

Research Publication Details

Detail of Patents

Indian Patent (Granted)

1. Jitendra Bahadur Maurya, **Y. K. Prajapati***, "Method to determine beam width of a dip in surface plasmon resonance sensor and its application," (Patent No.: 407708, Application No.: 201611005417, Date of Grant: 29.09.2022)
2. Subha Sarkar, **Yogendra Kumar Prajapati*** and Rajeev Tripathi, "Low Power, Uniform Frequency Resolution and High Sampling Speed Arbitrary Waveform Generator," (Patent No.: 461154, Application No.: 201811032831, Date of Grant: 20.10.2023)
3. **Yogendra Kumar Prajapati**; Piyus Sil; Piyus, "Integrated health-monitoring device and a method of real time transfer of health condition data collected," (Patent No.: 469442, Application No: 201611025089, Date of Grant: 16.11.2023)

International Patent (Published)

1. Sarika Pal, **Yogendra Kumar Prajapati**, Maneesh Kumar Singh, Vipin Kumar Verma, "A system for an improved long-range surface plasmon resonance (LR-SPR) sensor with extremely high imaging sensitivity," (App. No.: DE 202022100430U12022.03.17) Published on March, 2022.

Detail of Funded Research Projects

1. "Prototype development of a photovoltaic solar cell with a high conversion efficiency: An application of two-dimensional materials," **Funding Agency: Council of Scientific & Industrial Research (CSIR), India**, Rs. 25 Lakhs, Duration: 3 Years (2023-26) (**Status: Accepted**) (PI), Collaborating institute/Department-NIT Delhi
2. "Design and development of a non-invasive, smart, and portable device for real-time assessment of bone fracture healing progression," **Funding Agency: Core Research Grant, SERB**, Rs. 49 Lakhs, Duration: 3 Years (2023-26) (**Status: Ongoing**) (Co-PI), Collaborating institute/Department-KGMC, Lucknow & AMD, MNNIT Allahabad
3. "Investigations on surface plasmon resonance (SPR) based optical sensing with an emphasis on the role of spin waves and magnonics in related materials," **Funding Agency: Core Research Grant, SERB**, Rs. 20.44 Lakhs, Duration: 3 Years (2019-22) (**Status: Completed**) (Co-PI), Collaborating institute-NIT Delhi.
4. "Role of graphene and MoS₂ on performance of surface plasmon resonance-based sensors: An application to biosensing," **Funding Agency: Research Grant, DAE-BRNS**, Rs. 24.00 Lakhs, Duration: 3 Years (2017-21) (**Status: Completed**) (PI)
5. "Phosphorene based fiber optic plasmonic sensor for biomedical application," **Funding Agency: Collaborative Research Scheme Under NPIU** Rs. 15.00 Lakhs, Duration: 3 Years (2019-22) (**Status: Completed**) (Co-PI)

6. "Design and Analysis of Optical Waveguide for Biosensing Application," Funding Agency: Collaborative Research Scheme Under NPIU, Rs. 13.00 Lakhs, Duration: 3 Years (2019-22) (Status: Completed) (Co-PI)
7. "Design and Study of Sensitivity of optical biosensors having Metamaterials", Funding Agency: ECR, SERB, Rs. 23.39 Lakhs, Duration: 3 Year (2014-17), (Status: Completed) (PI)
8. "Design of biosensors using metal clad for sensing application," Ref.No.146/R&C/13-14 dated on 02/09/2013, Funding Agency: Motilal Nehru National Institute of Technology (MNNIT), Allahabad, India under TEQIP-II, Duration (2013-14) (Status: Completed) (PI)
9. "Simulation and numerical analysis of optical microstructure fibers: Dispersion characteristic," Ref.No.134/R&C/13-14 dated on 23/08/2013&Ref. No. 360/R & C/13-14, dated 07/03/2014, Funding Agency: Motilal Nehru National Institute of Technology (MNNIT), Allahabad, India under seed grant, Duration (2013-14) (Status: Completed) (PI)

Lab facility creation:

1. "To strengthen the post-graduate Teaching and Research in the Department," Funding Agency: DST-FIST, Rs. 1.06 Crores, (Status: Ongoing), (Convener & PI)

Publications (*List of papers published in SCI Journals*)

1. Rajeev Kumar, Sajal Agarwal, Sarika Pal, Yogendra Kumar Prajapati, "Refractive Index Sensing Using MXene Mediated Surface Plasmon Resonance Sensor in Visible to Near Infrared Regime," *Measurement Journal*, pp.11368, October 2023, <https://doi.org/10.1016/j.measurement.2023.113682> (Impact factor: 5.6, Quartile Score: Q1)
2. Rajeev Kumar, Sajal Agarwal, Sarika Pal, Yogendra Kumar Prajapati, JP Saini, "Enhanced refractive index sensing using a surface plasmon resonance sensor with heterostructure," *Micro and Nanostructures Journal*, vol. 13, 207656, August 2023, <https://doi.org/10.1016/j.micrna.2023.207656> (Impact factor: 3.1, Quartile Score: Q2)
3. Vinit Kumar, Rupam Srivastava, Yogendra Kumar Prajapati*, "Improved photonic spin Hall effect by an induced polarization gradient in anisotropy- black phosphorous and its application to NO₂ gas detection," *IEEE Sensors Journal*, Vol. 23 (18), pp.20976-20983, August 2023 (Impact factor: 4.3, Quartile Score: Q1)
4. Harshit Tiwari; Yogendra S. Dwivedi; Rishav Singh; Yogendra Kumar Prajapati; Richa Krishna; Nitin Singh Singha, Anuj K Sharma, "Exploring deep learning models aimed at favorable optimization and enhancement of fiber optic sensor's performance," *IEEE Sensors Journal*, vol. 23, no. 17, pp. 20330-20337, Septmber 2023, DOI 10.1109/JSEN.2023.3296199, August 2023 (Impact factor: 4.3, Quartile Score: Q1)
5. Malek G. Daher, Youssef Trabelsi, Naser M. Ahmed, Yogendra Kumar Prajapati, Ahmed Nabih Zaki Rashed, Shobhit K. Patel, "Detection of Escherichia coli using highly sensitive surface plasmon resonance nanostructure (SPRN) based on MXene 2D nanomaterial," *Plasmonic Journal*, <https://doi.org/10.1007/s11468-023-01970-2>, July 2023 (Impact factor: 2.726, Quartile Score: Q2)
6. Kinjal Chauhan; Krzysztof Szulc; Maciej Krawczyk; Yogendra Kumar Prajapati, Anuj Sharma, "Spin wave based weak magnetic field sensing at room temperature by using magnonic crystal," *Journal of*

Physics D: Applied Physics, vol. 56, no. 43, pp. 435001-435010, September 2023 (**Impact factor: 3.409, Quartile Score: Q1**)

7. Rupam Srivastava, Sarika Pal, **Yogendra Kumar Prajapati***, "MXene-assisted D-shaped photonic crystal fiber probe with high sensitivity for detection of tuberculosis," **Plasmonic Journal**, <https://doi.org/10.1007/s11468-023-01924-8>, June 2023 (**Impact factor: 2.726, Quartile Score: Q2**)
8. Rajeev Kumar, Sarika Pal, **Yogendra Kumar Prajapati***, "MXene mediated Long-Range Surface Plasmon Resonance (LRSPR) Sensor at Infrared Wavelength," **Plasmonic journal**, 10.1007/s11468-023-01896-9, (**Impact factor: 2.726, Quartile Score: Q2**)
9. Bitu Roumi, Mehmet Erzen, Harun Akkus, Yuanguo Zhou, **Yogendra Kumar Prajapati**, Yijun Cai, Jitendra Bahadur Maurya, Reza Abdi-Ghaleh, "Thermally switchable terahertz absorber based on a VO₂-included one-dimensional photonic crystal," **Applied Physics A**, Vol.129, 407 (2023). <https://doi.org/10.1007/s00339-023-06686-y> (**Impact factor: 2.983, Quartile Score: Q2**)
10. Rajeev Kumar, Alka Verma, Sarika Pal, **Yogendra Kumar Prajapati***, "Enhancing the Gas detection sensitivity of Surface Plasmon Resonance Sensor based on MXene and Black phosphorus," **IEEE Transaction on Plasma Science**, Vol. 51 (6), pp. 1427-1433, June 2023,10.1109/TPS.2023.3276371. (**Impact factor: 1.368, Quartile Score: Q3**)
11. Shambhu Kumara, Jitendra Bahadur Maurya, **Yogendra Kumar Prajapati**, Bitu Roumi, Reza Abdi-Ghaleh, "Design and Analysis of D-shaped Fiber Optic Plasmonic Sensors using Planar and Grating Structure of Silver and Gold," **Applied Optics**, Vol. 62, No. 16 / 1 June 2023, [DOI 10.1364/AO.481145](https://doi.org/10.1364/AO.481145) (**Impact factor: 1.905, Quartile Score: Q2**)
12. Kusharga Rastogi, Anuj K Sharma, **Yogendra Kumar Prajapati***, "Demonstration of Graphene-Assisted Tunable Surface Plasmonic Resonance Sensor Using Machine Learning Model," **Applied Physics A**, 129, 351 (2023). <https://doi.org/10.1007/s00339-023-06630-0> (**Impact factor: 2.983, Quartile Score: Q2**)
13. Narendra Pal, Jitendra Bahadur Maurya, and **Yogendra Kumar Prajapati***, Santosh Kumar, "LiF-Ag-Si-TMDs based Long-range SPR Sensor in Visible and Near Infrared Regime," **Optik**, 3 January 2023, 170556 (**Impact factor: 3.1, Quartile Score: Q2**)
14. Shivam Singh, **Yogendra Kumar Prajapati***, "Novel Bottom-Side Polished PCF-Based Plasmonic Biosensor for Early Detection of Hazardous Cancerous Cells," **IEEE Transactions on Nanoscience**, vol. 22 (1), pp. 647-654, <https://doi.org/10.1109/TNB.2023.3233990> July 2023. (**Impact factor: 2.967, Quartile Score: Q1**)
15. Palestine Malek G. Daher, Youssef Trabelsi; **Y. K. Prajapati**; Zbigniew Jaroszewicz; Abinash Panda; Naser M. Ahmed; Ahmed Nabih Zaki Rashed, "Highly Sensitive Detection of Infected Red Blood Cells (IRBCs) with Plasmodium Falciparum using Surface Plasmon Resonance (SPR) nanostructure," **Optical and Quantum Electronics**, 55, 199 (Jan.2023). <https://doi.org/10.1007/s11082-022-04466-1> (**Impact factor: 3, Quartile Score: Q2**)
16. Naghi Shaban; **Yogendra Kumar Prajapati**; Ramin Mohammadkhani, "Performance enhancement of waveguide-coupled and metamaterial surface plasmon resonance sensors based on Silver-Bismuth Ferrite and Graphene," **Journal of Materials Science: Materials in Electronics**, 34:309, January 25, 2023, <https://doi.org/10.1007/s10854-022-09721-5> (**Impact factor: 2.8, Quartile Score: Q2**)
17. Jitendra B. Maurya, Nikki, J.P. Saini, Anuj K. Sharma, **Yogendra Kumar Prajapati**, "A Localized SPR D-Shaped Fiber Optic Sensor utilizing Silver Grating Coated with Graphene: Field Analysis", **Optical Fiber Technology**, vol.75, pp.103204, Dec.2022. (**Impact factor: 2.7, Quartile Score: Q2**)
18. Vasile A. Popescu, K Chauhan, **Yogendra Kumar Prajapati**, and Anuj K. Sharma, "Design and analysis of graphene- and germanium-based plasmonic probe with photonic spin Hall effect in THz frequency region for magnetic field and refractive index sensing", **Optical and Quantum Electronics**, 55(2), 1-16, 2023 (**Impact factor: 3, Quartile Score: Q2**)
19. Ahmed Nabih Zaki Rashed, Malek G. Daher, Naser M. Ahmed, **Y. K. Prajapati**, Vishal Sorathiya, Sk Hasane Ahammad, Osama S. Faragallah, "Detection of Basal Cancer Cells using Photodetector Based on A novel Surface Plasmon Resonance Nanostructure Employing Perovskite Layer with an Ultra High

- Sensitivity," *Plasmonic*, October 2022, <https://doi.org/10.1007/s11468-022-01727-3> (Impact factor: 2.726, Quartile Score: Q2)
20. Sajal Agarwal, G. Srivastava, Yogendra Kumar Prajapati, "Dual band Vis-IR absorber using bismuth based helical metamaterial surface," *Optical and Quantum Electronics*, 54, 772 (2022). <https://DOI:10.1007/s11082-022-04185-7> September 16, 2022. (Impact factor: 3, Quartile Score: Q2)
 21. Vipin Kumar Verma, Rajeev Kumar, Sarika Pal, Yogendra Kumar Prajapati, "Highly Sensitive MXene-immobilized Long Range SPR Sensor for Biomolecule Detection," *Optical Materials*, Vol.133, November 2022, 112977, (Impact factor: 3.9, Quartile Score: Q1)
 22. Rupam Srivastava, Yogendra Kumar Prajapati*, Sarika Pal, Santosh Kumar, "Micro-channel Plasmon Sensor Based on a D-Shaped Photonic Crystal Fiber for Malaria Diagnosis with Improved Performance," *IEEE Sensors Journal*, <https://DOI:10.1109/JSEN.2022.3181198> June 2022, (Impact factor: 4.3, Quartile Score: Q1)
 23. Sanat Kumar Pandey, Shivam Singh, J.B. Maurya, R. N. Verma, Y.K. Prajapati*, "Design of a broadband dispersion compensated ultra-high nonlinear photonic crystal fiber," *Optical and Quantum Electronics*, 54:503, July (2022) (Impact factor: 3, Quartile Score: Q2)
 24. Narendra Pal, Jitendra Bahadur Maurya, Yogendra Kumar Prajapati, "Long-Range SPR Imaging Sensor Mediated by Antimonene for Biomolecule Sensing with Ultrahigh Imaging Sensitivity and Figure of Merit," *Plasmonic*, <https://doi.org/10.1007/s11468-022-01644-5> May 2022 (Impact factor: 2.726, Quartile Score: Q2)
 25. S. K. Jaiswal, J. B. Maurya, and Yogendra Kumar Prajapati, "Field Dependent Performance Parameters of Plasmonic Structure: An Analysis of Penetration Depth, and Propagation Length," *Journal of the Optical Society of America B*, 39 (4), 1003-1009, April 2022. (Impact factor: 2.05, Quartile Score: Q2)
 26. Maneesh Kumar Singh, Sarika Pal, and Yogendra Kumar Prajapati*, "Design and Analysis of an SPR Sensor based on Antimonene and Platinum for the Detection of Formalin," *IEEE Transactions on NanoBioscience*, vol. 22, no. 1, pp. 106-112, Jan. 2023, <https://doi:10.1109/TNB.2022.3159532> (Impact factor: 3.9, Quartile Score: Q1)
 27. Vipin Kumar Verma, Sarika Pal, Conrad Rizal, Yogendra Kumar Prajapati*, "Tunable and Sensitive Detection of Cortisol using Anisotropic Phosphorene with a Surface Plasmon Resonance Technique: Numerical Investigation," *Magnetochemistry*, vol. 8, no.3, pp.31, March 2022. (Impact factor: 3.336, Quartile Score: Q2)
 28. Vasile A. Popescu, Anuj K. Sharma, and Yogendra Kumar Prajapati, "Graphene-Based Plasmonic Detection of Magnetic Field and Gaseous Medium with Photonic Spin Hall Effect in a Broad Terahertz Region," *Journal of Electronic Materials*, 51, 2889–2899 June 2022. (Impact factor: 2.07 Quartile Score: Q3)
 29. Rajeev Kumar, Sarika Pal, Yogendra Kumar Prajapati*, Santosh Kumar, "Sensitivity Improvement of a MXene-immobilized SPR Sensor with Ga-doped-ZnO for Biomolecules Detection," *IEEE Sensors Journal*, vol. 22, no. 7, pp. 6536-6543, April 2022. (Impact factor: 4.3, Quartile Score: Q1)
 30. Anuj K. Sharma; Parmod Kumar; Yogendra Kumar Prajapati, "Plasmonics-based gas sensor with photonic spin hall effect in broad terahertz frequency range under variable chemical potential of graphene," *Optical and Quantum Electronics*, 54 (6), 1-13, June 2022. (Impact factor: 3, Quartile Score: Q2)
 31. Anand Sharma, Ajay Kumar Dwivedi, Nagesh Kallollu Narayaswamy, Yogendra Kumar Prajapati, Devendra Kumar Tripathi, "Ceramic material-based optical antenna for multiband photonics applications," *Optical Engineering*, 61(1), 017104 Jan.2022, <https://doi:10.1117/1.OE.61.1.017104> (Impact factor: 1.352, Quartile Score: Q2)
 32. Shivam Singh, Yogendra Kumar Prajapati*, "Antimonene-gold based twin-core SPR sensor with a side-polished semi-arc groove dual sensing channel: An investigation with 2D material," *Optical and Quantum Electronics*, Vol.54, 114, Feb. 2022. (Impact factor: 3, Quartile Score: Q2)

33. Parmod Kumar, Anuj K. Sharma, and **Yogendra Kumar Prajapati**, "Graphene-based plasmonic sensor at THz frequency with Photonic spin Hall effect assisted by magneto-optic phenomenon," *Plasmonics*, 17, 957–963, June 2022. (Impact factor: 2.72, Quartile Score: Q2)
34. **Yogendra Kumar Prajapati***, J.B. Maurya, Anuj K. Sharma, "Tunable and enhanced performance of graphene-assisted plasmonic sensor with photonic spin Hall effect in near infrared: Analysis founded on graphene's chemical potential and components of light polarization," *Journal of Applied Physics-D*, Vol. 55, no.9, 095102, Nov. 2021. (Impact factor: 3.4, Quartile Score: Q1)
35. Sanat Kumar Pandey, Shivam Singh, **Yogendra Kumar Prajapati***, "Photonic crystal fiber with high nonlinearity and extremely negative dispersion," *Optical and Quantum Electronics*, Vol. 53:724, Nov. 2021 <https://doi.org/10.1007/s11082-021-03376-y> (Impact factor: 3, Quartile Score: Q2)
36. Ajay Kumar Yadav, **Yogendra Kumar Prajapati** "A Novel Hybrid Technique for PAPR Reduction of Rayleigh Fading Channel based OFDM system", *Wireless Personal Communications*, 123, 3327–3346 April 2022. <https://doi.org/10.1007/s11277-021-09291-5> (Impact factor:2.2, Quartile Score: Q2)
37. Maneesh Kumar Singh, Sarika Pal, Alka Verma, Ritwick Das, **Yogendra Kumar Prajapati***, "A nanolayered structure for sensitive detection of Hemoglobin Concentration using Surface Plasmon Resonance," *Applied Physics A*, Vol. 127, pp. 832, Oct. 2021, <https://doi.org/10.1007/s00339-021-04985-w>, (Impact factor: 2.983, Quartile Score: Q2)
38. Maneesh Kumar Singh, Vipin Kumar Verma, Sarika Pal, **Yogendra Kumar Prajapati***, J. P. Saini, "Antimonene mediated Long-Range SPR Imaging Sensor with Ultrahigh Imaging Sensitivity and Figure of Merit," *Optical Materials*, Vol. 121, pp. 111484, Nov. 2021 (Impact factor: 3.9, Quartile Score: Q1) [SR/FST/ETI-418/2016]
39. Dheeraj Dubey, Rajeev Tripathi, and **Yogendra Kumar Prajapati**, "Optimization of hybrid high-throughput MIMO system with misaligned FSO link under varied weather," *Optical Engineering*, 60(8), 086106, August 2021, <https://doi:10.1117/1.OE.60.8.086106> (Impact factor: 1.352, Quartile Score: Q2)
40. V.A. Popescu, **Y.K. Prajapati**, Anuj K. Sharma, "Highly Sensitive Magnetic Field Detection in Infrared Region with Photonic Spin Hall Effect in Silicon Waveguide Plasmonic Sensor," *IEEE Transactions on Magnetism*, Vol. 57, no. 10, pp. 4002210, August 2021. <https://doi:10.1109/TMAG.2021.3103651> (Impact factor: 2.1, Quartile Score: Q2)
41. Alka Verma, Anuj Kr. Sharma, **Y. K. Prajapati***, "On the sensing performance enhancement in SPR-based Biosensor using specific two-dimensional materials (Borophene and Antimonene)," *Optical Materials*, Vol. 119, September 2021, 111355 (Impact factor: 3.9, Quartile Score: Q1)
42. Maneesh Kumar Singh, Sarika Pal, Alka Verma, Vimal Mishra, **Yogendra Kumar Prajapati***, "Sensitivity enhancement using anisotropic black phosphorus and antimonene in bi-metal layer-based surface plasmon resonance biosensor," *Superlattices and Microstructures*, Vol. 156, pp. 106969, June 2021 (Impact factor: 3.22, Quartile Score: Q2)
43. Anuj K. Sharma, Baljinder Kaur; **Y. K. Prajapati**, "Plasmonic sensor for magnetic field detection with chalcogenide glass and ferrofluid materials under thermal variation in near infrared" *Optical Materials*, Vol. 117, 111175, May 2021. (Impact factor: 3.9, Quartile Score: Q1)
44. Akash Srivastava; **Y.K. Prajapati**, "Surface Plasmon Resonance (SPR) based biosensor using MXene as a BRE layer and Magnesium Oxide (MgO) as an Adhesion layer," *Journal of Materials Science: Materials in Electronics*, 33, 8519–8528, 04/2022. <https://doi.org/10.1007/s10854-021-06436-x>, (Impact factor:2.8, Quartile Score: Q2)
45. Sanat Kumar Pandey, Shivam Singh, **Y. K. Prajapati***, "A novel PCF design with an ultra-flattened dispersion and low confinement loss by varying tiny air-hole concentration at core and cladding," *Optical Review*, Vol. 28, pp. 304–313, May 2021. (Impact factor: 1.04, Quartile Score: Q4).
46. **Yogendra Kumar Prajapati***, "Photonic spin Hall effect detection using weak measurement in the SPR structure using antimonene: A sensing application," *Microstructure and superlattice*, Vol. 155, 106886, July 2021 (Impact factor: 3.22, Quartile Score: Q2)

47. Artika Srivastava, Anuj K. Sharma, **Yogendra Kumar Prajapati***, “On the sensitivity-enhancement in plasmonic biosensor with photonic spin Hall effect at visible wavelength” **Chemical Physics Letters**, Vol. 774, 138613, July 2021 (Impact factor: 2.719, Quartile Score:Q2)
48. Rajeev Kumar, Sarika Pal, Narendra Pal, Alka Verma, J.P. Saini, **Yogendra Kumar Prajapati***, “Figure of merit enhancement of Ti3C2Tx Graphene-based Long-range surface plasmon sensor at Telecommunication wavelength,” **Optical and Quantum Electronics**, 53:218, May (2021) <https://doi.org/10.1007/s11082-021-02862-7>, (Impact factor: 3, Quartile Score:Q2)
49. Rajeev Kumar, Sarika Pal, Narendra Pal, Vimal Mishra, **Yogendra Kumar Prajapati*** “High performance bimetallic surface plasmon resonance biosensor using black phosphorus-Mxene hybrid structure,” **Applied Physics A**, 127, 259, March 2021) (Impact factor:2.983, Quartile Score: Q2)
50. Shivam Singh, **Y.K. Prajapati**, “Highly Sensitive Dual-Core Symmetrical Side-Polished Modified D-shaped SPR Based PCF Refractive Index Sensor with Deeply Etched Micro Openings,” **Optik**, Vol. 235, 166657, June 2021. (Impact factor :3.1, Quartile Score: Q2).
51. Sanat Kumar Pandey, J.B. Maurya, R. N. Verma, **Y. K. Prajapati***, “Multimode Hexagonal Photonic Crystal Fiber for Extremely Negative Chromatic Dispersion and Low Confinement Loss,” **Optical and Quantum Electronics**, Vol. 53 (130), Feb. 2021.<https://doi.org/10.1007/s11082-021-02779-1>(Impact factor: 3,Quartile Score:Q2)
52. Surjeet Raikwar, Dinesh Kumar Srivastava, Jai Prakash Saini, **Yogendra Kumar Prajapati***, “2D-Antimonene based Surface Plasmon Resonance Sensor for Improvement of Sensitivity,” **Appl. Phys. A**, 127, 92, January (2021) <https://doi.org/10.1007/s00339-020-04248-0>. (Impact factor:2.7, Quartile Score:Q2)
53. Shikha Devi, Divya Sharma, and **Y. K. Prajapati***, Rajeev Tripathi, “Independent and mixed transmission of 166.5Gb/s PM-8QAM and 222Gb/s PM-16QAM Nyquist-WDM superchannel for long haul metro network,” **International Journal of Communication Systems**, DOI: 10.1002/DAC.4735, Feb. 2021, <https://doi.org/10.1002/dac.4735> (Impact factor: 1.882, Quartile Score: Q2)
54. Akash Srivastava, Alka Verma, **Y. K. Prajapati***, “Theoretical study of hazardous Carbon-di-Oxide gas sensing using MIM structure based SPR sensing scheme,” **IET Optoelectronics**,<https://doi.org/10.1049/ote2.12035>, March 2021 (Impact factor:1.691, Quartile Score :Q3)
55. Maneesh Kumar Singh, Sarika Pal, Alka Verma, **Y.K. Prajapati***, J.P. Saini, “Highly Sensitive Antimonene Coated Black Phosphorous based Surface Plasmon Resonance Biosensor for DNA Hybridization: Design and Numerical Analysis,” **Journal of Nanophotonics**,14(4), 046015 Dec. (2020) <https://doi.org/10.1117/1.JNP.14.046015> (Impact factor:1.179, Quartile Score:Q3)
56. Pritam Keshari Sahoo, **Y.K. Prajapati***, Rajeev Tripathi, “Performance Enhancement of Gaussian Minimum Shift Keying Using Optimum Phase Sampling Technique for Turbulent Free-Space Optical Communication,” **Wireless Personal Communications**, 118, pp. 855–872, Jan. 2021. <https://doi.org/10.1007/s11277-020-08047-x> 2020. (Impact factor:2.2, Quartile Score: Q2)
57. Akash Srivastava, Ritwick Das, **Y. K. Prajapati***, “Effect of sulfosalt and polymers on performance parameter of SPR biosensor” **Optical and Quantum Electronics**, Vol. 52, pp.440, September 2020. (Impact factor: 3, Quartile Score: Q2)
58. Pritam Keshari Sahoo, **Y.K. Prajapati**, Rajeev Tripathi, “Hybrid mapped optical-OFDM using nonlinear companding technique for indoor visible light communication application”, **IET Communication**, Volume 14, Issue 17, 27 October 2020, p. 3073 – 3079 <https://doi:10.1049/iet-com.2020.0041> 2020. (Impact factor:1.345, Quartile Score: Q2)
59. Dheeraj Dubey, **Yogendra Kumar Prajapati**, Rajeev Tripathi, “Performance Enhancement of Hybrid-SIM for Optical Wireless Downlink Communication with Aperture Averaging and Receiver Diversity,” **IET Communications**, Volume 14, Issue 18, pp. 3194 – 3202, November 2020, (Impact factor: 1.345, Quartile Score:Q2)

60. Sarika Pal, Alka Verma, **Y.K. Prajapati***, J.P. Saini, "Sensitive detection using heterostructure of black phosphorus, transition metal di-chalcogenides and MXene in SPR sensor," **Applied Physics A**, Vol. 126, pp. 809, September 2020. (Impact factor: 2.983, Quartile Score: Q2)
61. Shivam Singh, **Yogendra Kumar Prajapati***, "TiO₂/gold-graphene hybrid solid core SPR based PCF RI sensor for sensitivity enhancement," **Optik**, Vol. 224, 165525, December 2020 (Impact factor: 3.1, Quartile Score: Q2)
62. Maneesh Kumar Singh, Sarika Pal, **Y.K. Prajapati***, J.P. Saini, "Sensitivity Improvement of Surface Plasmon Resonance Sensor on using BlueP/MoS₂ Heterostructure and Antimonene," **IEEE Sensors Letters**, vol.4, no. 7, pp. 1-4, July 2020, <https://DOI:10.1109/LENS.2020.3005942> (Impact factor: 2.8, Quartile Score: Q2)
63. Rajeev Kumar, Sarika Pal, **Y.K. Prajapati***, J.P. Saini, "Sensitivity Enhancement of MXene based SPR Sensor using Silicon: A Theoretical Analysis," **Silicon**, 13, 1887–1894 (June 2021) <https://DOI:10.1007/s12633-020-00558-3>, July 2020. (Impact factor: 2.941, Quartile Score: Q2)
64. J. B. Maurya, **Y.K. Prajapati***, "Experimental Demonstration of DNA Hybridization Using Graphene-Based Plasmonic Sensor Chip," **IEEE Journal of Lightwave Technology**, Vol. 38, issue 18, pp. 5191-5198, DOI: 10.1109/JLT.2020.2998138, September 15, 2020. (Impact factor: 4.439, Quartile Score: Q1)
65. Rajeev Kumar, Sarika Pal, Alka Verma, **Y.K. Prajapati***, J.P. Saini: "Effect of Silicon on Sensitivity of SPR Biosensor using Hybrid Nanostructure of Black Phosphorus and MXene" **Superlattices and Microstructures**, vol. 145, pp. 106591, September 2020. (Impact factor: 3.22, Quartile Score: Q2)
66. Anurag Upadhyay, Shivam Singh, **Y.K. Prajapati***, R.Tripathi, "Numerical Analysis of Large Negative Dispersion and highly Birefringent Photonic Crystal Fiber," **Optik**, Vol. 218, 164997, September 2020, <https://DOI:10.1016/j.ijleo.2020.164997>. (Impact factor: 3.1, Quartile Score: Q2)
67. Surjeet Raikwar, **Yogendra Kumar Prajapati***, D.K. Srivastava, J.B. Maurya, J.P. Saini, "Graphene-based Surface Plasmon Resonance Sensor for Examination of Rodent Urine," **Photonic Sensors**, 11, 305-313 2021, <https://DOI:https://doi.org/10.1007/s13320-020-0587-2> (Impact factor:2.814, Quartile Score: Q2)
68. Dheeraj Dubey, **Yogendra Kumar Prajapati**, Rajeev Tripathi, "Error Performance Analysis of PPM- and FSK- Based Hybrid Modulation Scheme for FSO Satellite Downlink," **Optical and Quantum Electronics**, 52:286, June 2020, <https://doi.org/10.1007/s11082-020-02404-7> (Impact factor:3, Quartile Score: Q2)
69. Divya Sharma, Shrish Bajpai, **Y. K. Prajapati*** R. Tripathi, "112 Gb/s Coherent NG-PON2 Downstream Transmission using Advance Polarization Multiplexed Modulation Formats," **Optoelectronics and Advanced Materials-Rapid Communications**, Vol. 14, No. 5-6, pp. 224 – 232, May-June 2020. (Impact factor:0.556, Quartile Score: Q4)
70. Effect of sulfosalt and polymers on performance parameter of SPR biosensor Akash Srivastava, Ritwick Das, **Y. K. Prajapati***, "Effect of Perovskite Material on the Performance of SPR Biosensor," **IET Optoelectronics**, 14(5):256-65 April 2020, <https://doi.org/10.1049/iet-opt.2019.0122> (Impact factor:1.691, Quartile Score: Q3)
71. Sajal Agarwal, **Y.K. Prajapati***, "Metamaterial Based Sucrose Detection Sensor Using Transmission Spectroscopy," **Optik**, vol. 205, pp.164276, March 2020. (Impact factor:3.1, Quartile Score: Q2)
72. Kamal Rudra, **Y.K. Prajapati**, "Effect of Mn doping on defect-related photoluminescence and nanostructure of dense 3-D Nano-root Network of ZnO," **Ceramics International**, vol. 46, pp. 10135-10141, Jan. 2020. (Impact factor:5.532, Quartile Score: Q1)
73. Shivam Singh, **Y.K.Prajapati***, "Dual-polarized ultrahigh sensitive Gold/MoS₂/Graphene based D-shaped PCF refractive index sensor in near to mid- IR region," **Optical & Quantum Electronics**, 52(1), January 2020. (Impact factor: 3, Quartile Score: Q2)
74. Divya Sharma, **Y.K. Prajapati***, Rajeev Tripathi, "0.55 Tb/s heterogeneous Nyquist-WDM superchannel using different polarization multiplexed subcarriers," **Photonic Network Communications**, vol. 39, pp. 120-128, April 2020. (Impact factor: 1.768, Quartile Score: Q3)
75. Sarika Pal, **Y.K. Prajapati***, J.P. Saini, "Influence of Graphene's Chemical Potential on SPR Biosensor using ZnO for DNA Hybridization", **Optical Review**, Vol. 27, pp. 57-64, Feb.2020. (Impact factor: 1.04, Quartile Score: Q4)

76. Akash Srivastava, Alka Verma, Ritwick Das, **Y. K. Prajapati***, "A Theoretical Approach to Improve the Performance of SPR Biosensor using MXene and Black Phosphorus," *Optik*, Vol. 203, February 2020, 163430. (Impact factor: 3.1, Quartile Score: Q2)
77. **Y. K. Prajapati***, Rahul Kumar, Vivek Singh, "Design of a photonic crystal fiber for dispersion compensation and sensing using modified air holes of the cladding," *Brazilian Journal of Physics*, Vol. 49, issue: 5, pp.745-751, October 2019. (Impact factor: 1.364, Quartile Score: Q4)
78. Ajay Yadav, Pritam Keshari Sahoo, **Y.K. Prajapati**, "PAPR Reduction and Improved BER Performance of OFDM System Using DFT Precoder and Root-Based Nonlinear Companding," *Optical Engineering*, 58(7), 076106 July 2019. (Impact factor: 1.352, Quartile Score: Q2)
79. Pritam Keshari Sahoo, Ajay Kumar Yadav, **Y.K. Prajapati**, Rajeev Tripathi, "Phase Sampled Detection of Hybrid Modulation Impaired by Gamma-gamma Turbulence," *Microwave and Optical Technology Letters*, Vol. 61, issue 9, pp. 2182-2189 Sept., 2019. (Impact factor: 1.311, Quartile Score: Q2)
80. Shivam, **Y.K. Prajapati***, "Highly sensitive refractive index sensor based on D-shaped PCF with gold-graphene layers on the polished surface," *Applied Physics A*, Vol. 125, pp.437. DOI: <https://doi.org/10.1007/s00339-019-2731-5>, May 2019. (Impact factor: 2.983, Quartile Score: Q2)
81. **Y.K. Prajapati***, Akash Srivastava, "Effect of BlueP/MoS2 Heterostructure and Graphene Layer on the Performance Parameter of SPR Sensor", *Superlattice and Microstructure*, Vol.129, pp. 152-162, May 2019. (Impact factor: 3.22, Quartile Score: Q2)
82. J. B. Maurya, **Y.K. Prajapati***, "Comparative Analysis of Silicon and Black Phosphorous as an Add-Layer in Nanomaterial based Plasmonic Sensor," *Optical and Quantum Electronics*, Vol. 51: 93, April 2019. <https://doi.org/10.1007/s11082-019-1814-z> (Impact factor: 3, Quartile Score: Q2)
83. Ajay Kumar Yadav, **Y.K. Prajapati**, "PAPR Minimization of Clipped OFDM Signals Using Tangent Rooting Companding Technique," *Wireless Personal Communications*, Vol. 105, no. 4, pp.:1435-1447, April 2019. <https://doi.org/10.1007/s11277-019-06151-1> (Impact factor: 2.2, Quartile Score: Q2)
84. Akash Srivastava, **Y.K. Prajapati***, "Performance Analysis of Silicon and Blue Phosphorene/MoS2 Hetero-Structure Based SPR sensor," *Photonic sensors*, Vol. 9, issue 3, pp 284–292, Sept. 2019. (Impact factor: 2.814, Quartile Score: Q2)
85. Sajal Agarwal, **Y.K. Prajapati***, "Multifunctional Metamaterial Surface for Absorbing and Sensing Applications," *Optics Communications*, Vol. 439, pp. 304-307, May 2019. (Impact factor: 2.31, Quartile Score: Q2)
86. Pritam Keshari Sahoo, **Y.K. Prajapati**, Rajeev Tripathi, "Performance analysis of pulse position modulation-based hybrid technique for cellular backhaul free-space optical link," *Optical Engineering* 58(1), 016119, Jan. 2019 (Impact factor: 1.352, Quartile Score: Q2)
87. Divya Sharma, **Y.K. Prajapati***, R. Tripathi, "Success Journey of Coherent PM-QPSK Technique With Its Variants: A Survey," *IETE Technical Review*, Vol. 37, no. 1, pp. 36-55, 2020. (Impact factor: 1.932, Quartile Score: Q2)
88. Sarika Pal, Alka Verma, J.P. Saini, **Y.K. Prajapati***, "Sensitivity Enhancement using heterostructure of Silicon-Black Phosphorus-TDMC layer Coated Surface Plasmon Resonance Biosensor," *IET Optoelectronic*, Vol. 13, issue:4, pp. 196-201, August 2019. (Impact factor: 1.691, Quartile Score: Q3)
89. Divya Sharma, **Y.K. Prajapati***, Rajeev Tripathi, "Spectrally Efficient Nyquist-WDM Superchannel with MLR Approach using PM-QPSK and PM-16QAM," *Optical Engineering*, 57(7), 076102 (1-6), July 2018. (Impact factor: 1.352, Quartile Score: Q2)
90. Pritam Keshari Sahoo, **Y.K. Prajapati**, Rajeev Tripathi, "PPM and GMSK based Hybrid Modulation Technique for OWC cellular backhaul channel" *IET Communications*, Vol.12 (17), pp. 2158-2163, July 2018. (Impact factor: 1.345, Quartile Score: Q2)
91. Sarika Pal, Alka Verma*, S. Raikwar, **Y.K. Prajapati**, J.P. Saini, "Detection of DNA Hybridization using Black Phosphorus-Graphene Coated Surface Plasmon Resonance Sensor" *Applied Physics A*, 124:394, May 2018. (Impact factor: 2.983, Quartile Score: Q2)

92. J. B. Maurya, A. François, **Y.K. Prajapati***, "Two-Dimensional Layered Nanomaterial Based One-Dimensional Photonic Crystal Refractive Index Sensor," *Sensors*, 18(3), 857; March 2018, <https://doi.org/10.3390/s18030857> (Impact factor: 3.847, Quartile Score: Q1)
93. J.B.Maurya, **Y.K.Prajapati***, "Influence of Adhesion layer on Performance of Surface Plasmon Resonance Sensor," *IET Optoelectronics*, 12 (4), pp.168 –175, August 2018, (Impact factor: 1.691, Quartile Score:Q3)
94. J. B. Maurya, S. Raikwar, **Y.K. Prajapati***, J.P. Saini, "A Silicon-Black Phosphorous based Surface Plasmon Resonance Sensor for the detection of NO₂ Gas," *Optik*, <https://doi.org/10.1016/j.ijleo.2018.02.002> Feb. 2018. (Impact factor: 3.1, Quartile Score: Q2)
95. Sajal Agarwal, **Y.K. Prajapati***, "Design of a Broadband Electromagnetic Absorber using 2-D Materials," *Optics Communication*, Vol. 413, pp. 39-43, April 2018. (Impact factor: 2.31, Quartile Score: Q2)
96. **Y.K. Prajapati***, V.K.Srivastava, Vivek Singh, J.P. Saini, "Effect of germanium doping on the performance of silica based photonic crystal fiber," *Optik*, Vol. 155, pp. 149-156, Jan. 2018. (Impact factor: 3.1, Quartile Score: Q2)
97. Sarika Pal, Alka Verma, **Y.K. Prajapati**, J.P. Saini, "Influence of Black Phosphorous on Performance of Surface Plasmon Resonance biosensor" *Optical and Quantum Electronics*, Vol.49, pp. 403, Dec. 2017. (Impact factor: 3, Quartile Score: Q2)
98. Anurag Upadhyay, **Y.K. Prajapati***, Rajeev Tripathi, "Analytical study of planar waveguide sensor having metamaterial as a guiding layer," *Photonic Sensors*, Vol. 7, issue 4, pp 377–384, December 2017. (Impact factor: 2.814, Quartile Score: Q2)
99. **Y.K. Prajapati***, Sarika Pal, J.P.Saini, "Effect of Metamaterial and Silicon layers on Surface Plasmon Resonance Biosensor," *Silicon*, Vol. 10, number 4, pp. 1451-1460, July 2018. (Impact factor: 2.941, Quartile Score:Q2)
100. J.B.Maurya, **Y.K.Prajapati***, "A Novel Method to Calculate Beam Width of SPR Reflectance Curve: A Comparative Analysis," *IEEE Sensor Letters*, Vol. 1, issue 4, pp. 1-4, <https://doi.org/10.1109/LSSENS.2017.2709549>, August 2017. (Impact factor: 2.8, Quartile Score: Q1)
101. J. B.Maurya, **Y.K.Prajapati***, "Influence of Dielectric Coating of Metal Layer in Surface Plasmon Resonance Sensor," *Plasmonics*, 12 (4), pp. 1121-1130, August 2017. (Impact factor: 2.72, Quartile Score: Q2)
102. Sajal Agarwal, **Y.K.Prajapati***, "Analysis of Metamaterial based Absorber for Thermo-photovoltaic Cell Applications," *IET Optoelectronics*, 11(5),pp. 208 – 212, June 2017. (Impact factor: 1.691, QuartileScore:Q3)
103. Pooja Lohia, **Y.K.Prajapati***, J.P. Saini and B.S. Rai, "Analytical investigation of dispersion characteristics of elliptically cored multilayer waveguides with two different refractive index profile," *Journal of optics*, Volume 46, Issue 4, pp 499–505, Dec. 2017 (Impact factor: 1.8, Quartile Score: Q3)
104. Sajal Agarwal, **Y. K. Prajapati***, and Vivek Singh, "Influence of Metal Roughness on SPR Sensor Performance," *Optics Communications*, 383(15), pp. 113–118, January 2017. (Impact factor: 2.31, Quartile Score: Q2)
105. Sajal Agarwal, Pushpa Giri, **Y. K. Prajapati***, P. Chakrabarti, "Effect of Surface Roughness on the Performance of Optical SPR Sensor for Sucrose detection: Fabrication, Characterization and Simulation Study," *IEEE Sensors Journals*, Vol. 16, No. 24, pp. 8865 – 8873, December 2016, (Impact factor: 4.3, Quartile Score:Q1).
106. Sajal Agarwal, **Y. K. Prajapati***, J.B.Maurya, "Effect of Metallic Adhesion Layer Thickness on the Sensor Performance," *IEEE Photonics Technology Letters*, 28(21), pp. 2415-2418, Nov. 2016. <https://doi.org/10.1109/LPT.2016.2597856> (Impact factor: 2.414, Quartile Score: Q2)
107. J.B.Maurya, **Y.K.Prajapati***, and Rajeev Tripathi, "Effect of Molybdenum Disulfide Layer on Surface Plasmon Resonance Biosensor for the Detection of Bacteria," *Silicon*, Vol. 10, pp. 245–256, March 2018 (Impact factor: 2.941, Quartile Score:Q2)

108. Sajal Agarwal, **Y.K.Prajapati***, “Broadband and Polarization Insensitive Helix Metamaterial Absorber using Graphene for Terahertz Region,” *Applied Physics A.*, 122(6), 1-9, June 2016. (Impact factor: 2.983, Quartile Score: Q2)
109. J.B.Maurya,**Y.K.Prajapati*** “A Comparative Study of Different Metal and Prism in the Surface Plasmon Resonance Biosensor having MoS₂-Graphene,” *Optical and Quantum Electronics*, 48(5), pp. 1-12, May 2016. <https://doi.org/10.1007/s11082-016-0562-6> (Impact factor:3, Quartile Score: Q2).
110. Anurag Upadhyay, **Y.K.Prajapati***, Rajeev Tripathi, Vivek Singh and J.P. Saini “Analysis of metal clad waveguide sensor having metamaterial as a guiding layer,” *Opto-Electronics Review*, Vol.24(2), pp. 47–57, April 2016.(Impact factor: 2.227, Qurtile Score: Q3)
111. Sarika Pal, **Y.K.Prajapati***, J. P. Saini and V. Singh, “Sensitivity enhancement of Metamaterial based Surface Plasmon Resonance Biosensor for near infrared,” *Optica Applicata*, Vol. 46, issue 1,pp.131-143, Feb.2016. (Impact factor:0.505, Quartile Score: Q4)
112. J.B.Maurya, **Y.K.Prajapati***, Vivek Singh, J. P. Saini, and Rajeev Tripathi “Improved Performance of the Surface Plasmon Resonance Biosensor Based on graphene or MoS₂ using Silicon,” *Optics Communications*, Vol. 359, pp. 426–434, January 2016. (Impact factor: 2.31, Quartile Score: Q2)
113. Sarika Pal, **Y.K. Prajapati***, J.P.Saini and V. Singh, “Resolution enhancement of optical SPR sensor using Metamaterial,”*Photonics Sensors*, Vol. 5, issue 4, pp. 330–338. December 2015, Springer publication. (Impact factor: 2.814, Quartile Score: Q2).
114. Sajal Agarwal, **Y. K. Prajapati***, and Vivekanand Mishra, “Thinned Fiber Bragg Grating as a Fuel Adulteration Sensor: Simulation and Experimental,” *Opto- Electronics Review*, Vol. 23, issue 4, Pages 231–238, Dec. 2015. (Impact factor: 2.227, Quartile Score: Q3)
115. Sajal Agarwal, **Y.K.Prajapati***, Vivek Singh, J. P. Saini, “Polarization Independent Broadband Metamaterial Absorber Based on Tapered Helical Structure,” *Optics Communications*, Vol. 356, pp. 565-570, December 2015, (Impact factor: 2.31,Quartile Score:Q2)
116. AnuragUpadhyay, **Y.K.Prajapati***, Rajeev Tripathi, Vivek Singh and J.P. Saini,“Metal Clad Waveguide Sensor with Metamaterial Layer for Refractometric Sensing Application,” *J. Nanoelectron. Optoelectron.* 10, pp.749-754 Dec.2015, [American Scientific Publishers](http://www.american-scientific.com). (Impact factor: 0.697)
117. V.K.Srivastava, **Y.K.Prajapati***, Vivek Singh, J.P. Saini, “Enhancement of Effective Area of Bragg Waveguide using Plasma for Communication Systems” *Microwave and Optical Technology Letters*, 57 (11), pp. 2491-2496, Nov. 2015. (Impact factor:1.311, Quartile Score: Q2)
118. J.B.Maurya, **Y.K.Prajapati***, Vivek Singh, J. P. Saini, “Sensitivity Enhancement of Surface Plasmon Resonance Sensor Based on Graphene-MoS₂ Hybrid Structure with TiO₂-SiO₂ Composite Layer,” *Applied Physics A-Materials Science & Processing*, Vol. 121, Issue 2, pp 525-533, Nov. 2015 (Impact factor: 2.983, Quartile Score:Q2)
119. J.B.Maurya, **Y.K.Prajapati***, Vivek Singh, J. P. Saini and Rajeev Tripathi, “Performance of Graphene-MoS₂ based Surface Plasmon Resonance Sensor using Silicon layer,” *Optical and Quantum Electronics*, Springer publication, Volume 47, issue 11,pp.3599-3611,Nov. 2015 (Impact factor:3, Quartile Score:Q2)
120. Anurag Upadhyay, **Y.K. Prajapati***, Vivek Singh and J.P. Saini,“Sensitivity estimation of metamaterial loaded planar waveguide,”*Optical and Quantum Electronics*, Volume 47, Issue 7, Page 2277-2287,July2015 (Impact factor:3, Quartile Score: Q2)
121. Sarika Pal, **Y.K. Prajapati***, J.P. Saini, Vivek Singh, “Sensitivity enhancement of metal clad planar waveguide sensor using metamaterial layer as a guiding layer,” *Optik - International Journal for Light and Electron Optics*, Volume 126, Issue 14, July 2015, Pages 1372-1376. (Impact factor: 2.84, Quartile Score: Q2)
122. **Y.Prajapati***, J.B.Maurya, Vivek Singh, J. P. Saini, “Modal Analysis and Dispersion Curves of an Elliptical W-type Single Mode Fiber”, *Optics and spectroscopy*, Vol. 118, No. 5, pp. 821–828, May 2015 (Impact factor: 0.74,QuartileScore:Q4)
123. AnuragUpadhyay, **Y. K. Prajapati***, Vivek Singh and J.P. Saini, “Comprehensive study of reverse index waveguide-based sensor with metamaterial core,” *Optics Communication*, Vol. 348, pp.71–76, March 2015. (Impact factor: 2.31, Quartile Score:Q2)

124. Pooja Lohia, **Y.Prajapati***, J.P. Saini and B.S. Rai, “**Enhancement of single mode operation in Coaxial Optical waveguide using DB boundary conditions**”, **Infrared Physics and Technology**, Vol.67, pp. 462–466, Sept. 2014. **(Impact factor: 2.997, Quartile Score:Q2)**
125. **Y.Prajapati***, Vivek Singh, and J. P. Saini, “**Computing Eigenvalue equation and modal dispersion characteristics of an Elliptical Bragg waveguide**” **International Journal for Light and Electron Optics (OPTIK)**, volume-125, pp. 5461–5466, Oct.2014 **(Impact factor: 3.1, Quartile Score :Q2)**
126. **Y.Prajapati***, J. P. Saini, D.S.Chauhan and Vivek Singh, “**Effect of Plasma on Modal Dispersion Characteristic of Elliptical Bragg Waveguide**”**Optoelectronics Review**, Vol. 22, no. 1, pp.16–23, March 2014, **(Impact factor: 2.227,Quartile Score:Q3)**
127. **Y.Prajapati***, Vivek Singh and J. P. Saini, “**Analysis of dispersion relation of the elliptical dielectric waveguides having M-type refractive index profile**” **International Journal for Light and Electron Optics (OPTIK)**, volume-124, pp.1736-1740, July 2013. **(Impact factor: 3.1, Quartile Score: Q2)**
128. **Y.Prajapati***, A.Yadav, A. Verma, V. Singh and J.P.Saini, “**Effect of Metamaterial layer on optical surface plasmon resonance Sensor**” **International Journal for Light and Electron Optics**, Vol.124, issue-18, pp.3607-3610, September 2013. **(Impact factor: 3.1, Quartile Score: Q2)**
129. J.B.Maurya, **Y.Prajapati***, Vivek Singh, J. P. Saini, “**Effect of cladding layers on the mode of circular optical waveguides**”**International Journal for Light and Electron Optics (OPTIK)**, volume-124, issue-11, pp.1066-1069, June-2013. **(Impact factor: 3.1, Quartile Score: Q2)**
130. D.Sharma, A.Verma **Y. Prajapati***, V. Singh and J.P.Saini, “**Forward and Backward wave propagation in multilayer planar waveguide using Metamaterials layer**” **Optical and Quantum Electronics**, Volume-45, pp. 105–114, Feb. 2013. **(Impact factor: 3, Quartile Score: Q2)**
131. **Y.Prajapati***, J. P. Saini, D.S.Chauhan and Vivek Singh, “**Analytical solution of the scalar wave equation for slightly deformed optical Bragg waveguide**” **Journal of Russian Laser Research**, volume-34, number-2, pp.110-116, March 2013. **(Impact factor: 0.81, Quartile Score: Q3)**
132. **Y.Prajapati**, Vivek Singh and J. P. Saini, “**Modal characteristic equation and dispersion characteristics for an elliptical Bragg waveguide with a small number of claddings**” **Microwave and optical Technology Letters**, ISSN: 1098-2760, Wiley publication, Volume 53, Issue 4, April 2011, Pages: 932–938. **(Impact factor:1.311, Quartile Score: Q2)**
133. **Y.Prajapati**, Vivek Singh and J. P. Saini, “**Modal Analysis of a Super Elliptical Bragg Waveguide with a Small Number of Periodic Cladding Layers Based on a Very Simple Analytical Technology,**” **International Journal for Light and Electron Optics (OPTIK)**, volume-120, issue-1, pp.14-19, January 2009. **(Impact factor: 3.1, Quartile Score: Q2)**
134. **Y.Prajapati**, Vivek Singh, and J. P. Saini, “**Modal Analysis and Dispersion Curves of a Bragg Fiber Having Asymmetric loop boundary,**” **International Journal of Progress In Electromagnetics Research**, U.S.A., ISSN: 1559-8985, E-ISSN: 1070-4698, vol. 87, pp. 117–130,2008 **(Impact factor: 6.00, Quartile Score:Q2)**
135. Vivek Singh, **Y.Prajapati**, and J. P. Saini, “**Modal Analysis and Dispersion Curves of a New Unconventional Bragg Waveguide Using a Very Simple Method,**” **International Journal of Progress In Electromagnetics Research**, U.S.A., ISSN: 1559-8985, vol. 64, pp. 191–204, 2006. **(Impact factor: 6.00, Quartile Score: Q2)**

***Corresponding author**

Books/Reports/Chapters/General articles etc.:

S. No	Title	Author's Name	Publisher	Year of Publication
1	Sensitivity Analysis of Surface Plasmon Resonance Biosensor Based on Heterostructure of 2D BlueP/MoS2 and MXene	Sarika Pal, Narendra Pal, Y.K. Prajapati , J.P. Saini	Wiley-Scrivener	May 2020

2	Chip-Level Optical Interconnect in Electro-optics Platform,” Energy Syst. Elect. Engineer	Sajal Agarwal and Y. K. Prajapati	Springer Nature	2020
3	Analyzing the Sensitivity of Heterostructure of BP-Graphene/TMDC Layer Coated SPR Biosensor	Sarika Pal, Yogendra Kumar Prajapati and J.P. Saini	Springer, Singapore	2020
4	“Phosphorene: A Worthy Alternative of Graphene and MoS ₂ in Surface Plasmon Resonance Sensor	Jitendra Bahadur Maurya, Alka Verma and Yogendra Kumar Prajapati	Springer Singapore	2020
5	Plasmonic Sensor based on Graphene, Black and Blue Phosphorous in the Visible Spectrum	Jitendra Bahadur Maurya, Alka Verma, Y. K. Prajapati	Springer Singapore	2020

Book as an Editor

R.K. Nagaria, V.S.Tripathi, C.R. Zamarreno, and Y.K. Prajapati, eds., “VLSI, Communication and Signal Processing: Select Proceedings of the 5th International Conference,” VCAS 2022 (Vol. 1024), 2023. Springer Nature.

Short-Term Courses and Conference Organized (Since 2018)

- As a Coordinator Two-days’ Workshop (Online) On Advances in Photonic Devices, Sensors, and Systems (APDSS), June 2-3, 2022, Under Scientific Social Responsibility (SSR) Scheme – SERB (India)
- As a Coordinator DST Sponsored National Level Training Programme on Hands on Training on Microwave & Photonics Related Sophisticated Equipment and Components (HTMPRSEC22), under DST STUTI Programme-2022 June 06 -12, 2022, at MNNIT Allahabad, Prayagraj, Uttar Pradesh
- As an Organizing Secretary organized “Fourth International Conference on VLSI, Communication and Signal Processing (VCAS 2021),” during 24-26 September 2021, at MNNIT Allahabad, Prayagraj, Uttar Pradesh, India
- As a Coordinator organized “2nd National workshop on Advances in Wireless and Optical Networks (AWON-2019)” during May 27, 2019 to June 01, 2019 at MNNIT Allahabad, Prayagraj, Uttar Pradesh, India.

Administrative Experiences

Faculty In charge • FI Purchase: From October 18, 2023 to continue

Faculty In charge: • FI [Electrical (Residential & Academic campus)]: From October 12, 2020 to October 23, 2023
• FI (Examination): From September 20, 2018 to October 12, 2020
• FI (EMSW): From September 12, 2013 to December 26, 2015.

- Hostel Warden:
- Warden (Tilak): From March 23, 2022 to September 1, 2023
 - Warden (SVBH): From March 21, 2021 to March 04, 2022
 - Warden (PG): From February 19, 2019 to March 08, 2021
 - Warden (Raman): From February 10, 2017 to February 23, 2019
- Deputy Dean R &C
- From May 19, 2017 to May 20, 2018
- Department Activities:
- Officer In charge (Microwave and Project Lab): From October 15, 2015 to continue
 - DPC Convener: From September 16, 2019 to continue
 - NBA Committee Convener: From September 06, 2019 to September 15, 2021
 - Members of different departmental committees

Any other Information

- a. **Reviewer** for more than 40 international journals
- b. **Associate Editor** of *IEEE Access Journal* since March 2022.
Associate Editor of *Frontiers in Physics - Optics and Photonics* since September 2022
- c. **Citations: 2952 (h-index: 28)** as per Google Scholar
- d. Listed as **Top 2% Scientists Worldwide 2021, 2022 & 2023** by Stanford University USA