

Prof (Dr) JYOTEESH MALHOTRA

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Bio Sketch : Dr. Malhotra has more than 25 years of experience in Teaching, Research & administration, joined GNDU Regional Campus Jalandhar in the year 2007 where he is currently serving as Professor & Head, Department of Engg. & Technology and Associate Dean (Academic Affairs & Student Welfare). Earlier, he also served as Dean Faculty of Engineering & Technology at Guru Nanak Dev University, Amritsar. He had also worked with DAVCMC, New Delhi and Panjab University, Chandigarh at various Academic & Administrative positions.

He has research interests in the broad area of Internet of Things, Machine Learning application in Pervasive Optical / Wireless Communication & Networks. He has worked extensively on developing wireless channel models and fading mitigating solutions. He has guided many scholars for the research pertaining to their PhD and MTech dissertation work in developing energy efficient protocol designs for wireless networks that includes LTE, VANET, MANET, FANET, WSN, IoT and Optical Networks. Currently, he has been actively involved in developing data centric approach for the future wireless networks.

His research work has been published in more than **100** SCI/Scopus indexed International Journals of Repute with the highest **Impact Factor** (Web of Science) of **9.936** and **h-index** as **18**. He is a life member of Indian Society for Technical Education and Editorial Board of many International Journals of repute. He strongly believe in the continuing education for effective teaching- learning process and has participated & delivered lectures in more than 20 Instruction enhancement programs.

Publication Statistics (280+ Publications)

- Highest Impact Factor : 9.936 (JCR 2020)
- SCI/Scopus : 100+
- RG Score : 29.81*
- Impact Points : 117.149
- Citations : 2422
- h-index : 18
- i-index : 29

*Source: www.ResearchGate.net

List of Significant SCI/Web of Science Publications

1. "IoMT: A Reliable Cross Layer Protocol for Internet of Multimedia Things," IEEE Internet of Things Journal (ISSN: 1551-9899) Vol.4 No. 03 , pp.832-839, June 2017 **[SCI - IF 9.936] (Web of Science)**
2. "Can Sensors Collect Big Data? An Energy Efficient Big Data Gathering Algorithm for WSN," IEEE Transactions on Industrial Informatics (ISSN: 1941-0050) Vol.13 No. 04, pp.1961-1968, August 2017. **[SCIE - IF 9.112](Web of Science)**
3. "A cross layer protocol for traffic management in Social Internet of Vehicles" Future Generation Computer Systems, Elsevier (ISSN: 2210-6707) Vol. 82, pp. 707–714 August 2017 **[SCIE - IF 6.125](Web of Science)**
4. "A Novel Approach for Smart Cities in Convergence to Wireless Sensor Networks" Sustainable Cities and Society, Elsevier (ISSN: 2210-6707) Vol.35, pp.440-448 August 2017 **[SCIE - IF 5.268](Web of Science)**
5. "Energy efficient chain based routing protocol for underwater wireless sensor networks," Journal of Network and Computer Applications, Elsevier (ISSN: 1084-8045) Vol.92 No. 01, pp.42-50, August 2017. **[SCIE - IF 5.57](Web of Science)**
6. "Energy Efficient Chain based Cooperative Routing Protocol for WSN," Applied Soft Computing, Elsevier (ISSN: 1568-4946) Vol.35, pp. 386–397, July 2015 **[SCIE - IF 5.472] (18136) (Web of Science)**
7. "IoT and cloud computing based automatic epileptic seizure detection using HOS features based random forest classification" Journal of Ambient Intelligence and Humanized Computing, Springer (ISSN: 1868-5145) [online first] Dec. 2019. **[SCIE IF 4.594] (Web of Science)**
8. "Design of 3.84 Tbps hybrid WDM–PDM based inter-satellite optical wireless communication (IsOWC) system using spectral efficient orthogonal modulation scheme" Journal of Ambient Intelligence and Humanized Computing, Springer (ISSN: 1868-5145) [online first] Jan. 2020 **[SCIE IF 4.594] (Web of Science)**
9. "A Novel Scheme for an Energy Efficient Internet of Things Based on Wireless Sensor Networks," Sensors, (ISSN: 1424-8220) Vol.15, pp.28603-28626, Oct 2015. **[SCIE - IF 3.275] (130124) (Web of Science)**
10. "An energy balanced QoS based cluster head selection strategy for WSN," Egyptian Informatics Journal, Elsevier Publication (ISSN: 1110-8665) Vol.15, No.03, pp. 189–199, November 2014 **[SCIE - IF 3.119] (Web of Science)**
11. "5GAuNetS: an autonomous 5G network selection framework for Industry 4.0" *Soft Computing*, Springer (ISSN: 1432-7643) Vol.24,pp. 9507–9523, Oct 2019. **[SCIE - IF 3.050](Web of Science)**

12. "A high-speed radio-over-free-space optics link using wavelength division multiplexing-mode division multiplexing - multibeam technique" *Computers & Electrical Engineering*, Elsevier (ISSN: 0045-7906) [in Press] Oct 2020 **[SCIE IF 2.663] (Web of Science)**
13. "Development of high-speed FSO transmission link for the implementation of 5G and Internet of Things" *Wireless Networks*, Springer (ISSN: 1022-0038) 26, pp.2403–2412, Oct 2019. **[SCIE - IF 2.659](Web of Science)**
14. "Performance analysis of 160 Gbit/s single-channel PDM-QPSK based inter-satellite optical wireless communication (IsOWC) system" *Wireless Networks*, Springer (ISSN: 1022-0038) 26, pp. 3579–3590, March 2020. **[SCIE - IF 2.659](Web of Science)**
15. "Performance evaluation of 6.4 Tbps dual polarization quadrature phase shift keying Nyquist-WDM superchannel FSO transmission link: Impact of different weather conditions" *Alexandria Engineering Journal*, Elsevier (ISSN: 1110-0168) Vol.52 No. 02, pp. 977-986, April 2020 **[SCIE IF 2.46] (Web of Science)**
16. "A long-haul 100 Gbps hybrid PDM/CO-OFDM FSO transmission system: Impact of climate conditions and atmospheric turbulence" *Alexandria Engineering Journal*, Elsevier (ISSN: 1110-0168) [Online First]Oct 2020 **[SCIE IF 2.46] (Web of Science)**
17. "Millimeter-wave hybrid OFDM-MDM radio over free space optical transceiver for 5G services in desert environment" *Alexandria Engineering Journal*, Elsevier (ISSN: 1110-0168) Vol. 60, no. 5, pp. 4275-4285, Oct 2021 **[SCIE IF 2.46] (Web of Science)**
18. "Performance Analysis of Multihop Communication Using Generalized Gamma Fading Model" *Optik*, (ISSN: 0030-4026) Vol.126, No.15-16 pp. 1423–1428, August 2015 **[SCIE -IF 2.187 (110152) (Web of Science)**
19. "Analysis of 2×10 Gbps MDM enabled inter satellite optical wireless communication under the impact of pointing errors" *Optik*, (ISSN: 0030-4026) Vol.126, No.15-16 pp. 1423–1428, July 2020 **[SCIE -IF 2.187 (110152) (Web of Science)**
20. "Energy efficient cognitive body area network (CBAN) using lookup table and energy harvesting" *Journal of Intelligent & Fuzzy Systems*, IOS Press (USA), (ISSN: 2088-8708) 35(2), pp. 1253-1265, 2018. **[SCIE - IF 1.851] (23917) (Web of Science)**
21. "Modeling and performance investigation of 4×20 Gbps underwater optical wireless communication link incorporating space division multiplexing of Hermite Gaussian modes" *Optical and Quantum Electronics*, Springer-US (ISSN: 0306-8919) Vol. 52, 256 May 2020 **[SCIE IF 1.842] (12313) (Web of Science)**

22. "A cost effective 100 Gbps hybrid MDM–OCDMA–FSO transmission system under atmospheric turbulences" *Optical and Quantum Electronics*, Springer-US (ISSN: 0306-8919) Vol. 49, No. 5, pp. 184, April 2017 [[SCI - IF 1.842](#)] ([12313](#)) ([Web of Science](#))
23. Performance investigation of high-speed FSO transmission system under the influence of different atmospheric conditions incorporating 3-D orthogonal modulation scheme" *Optical and Quantum Electronics*, Springer-US (ISSN: 0306-8919) Vol.51, no. 9, 285 August 2019 [[SCIE IF 1.842](#)] ([12313](#)) ([Web of Science](#))
24. "Ultra-high capacity long-haul PDM-16-QAM-based WDM-FSO transmission system using coherent detection and digital signal processing" *Optical and Quantum Electronics*, Springer-US (ISSN: 0306-8919) Vol.52, 500 Nov 2020 [[SCIE IF 1.842](#)] ([12313](#)) ([Web of Science](#))
25. "Performance analysis of 80 Gbps Ro-FSO system by incorporating hybrid WDM-MDM scheme" *Optical and Quantum Electronics*, Springer-US (ISSN: 0306-8919) Vol.52, 505 Nov 2020 [[SCIE IF 1.842](#)] ([12313](#)) ([Web of Science](#))
26. "Performance evaluation of 120 GB/s hybrid FSO-SACOCDMA-MDM system using newly designed ITM-Zero cross-correlation code" *Optical and Quantum Electronics*, Springer-US (ISSN: 0306-8919) [online first] Jan 2021 [[SCIE IF 1.842](#)] ([12313](#)) ([Web of Science](#))
27. "A spectral-efficient 1 Tbps terrestrial free-space optics link based on super-channel transmission" *Optical and Quantum Electronics*, Springer-US (ISSN: 0306-8919) Vol.53, no 5, pp 1- 12 April 2021 [[SCIE IF 1.842](#)] ([12313](#)) ([Web of Science](#))
28. "Performance comparison of M-QAM and DQPSK modulation schemes in a 2 × 20 Gbit/s–40 GHz hybrid MDM–OFDM-based radio over FSO transmission system" *Photonic Network Communications*, Springer (US) (ISSN: 1572-8188) pp 1-12, August 2019. [[SCIE - IF 1.75](#)]([Web of Science](#))
29. "Performance investigation of a 3.84 Tb/s WDM-based FSO transmission system incorporating 3-D orthogonal modulation scheme" *Photonic Network Communications*, Springer (US) (ISSN: 1572-8188) pp 177-188, March 2021. [[SCIE - IF 1.75](#)]([Web of Science](#))
30. QAAs: QoS provisioned artificial intelligence framework for AP selection in next-generation wireless networks. *Telecommunication System*, Springer (US) (ISSN: 0306-8919), Vol. 76, pp. 233- 249 Feb 2021 . [[SCIE IF 1.734](#)]([Web of Science](#))
31. "On the Performance Analysis of Wireless Receiver using Generalized-Gamma Fading Model," *annals of telecommunications-Annales des télécommunications*, International journal, Springer (ISSN: 1958-9395), Vol. 64, No 1-2, pp. 147-153, Jan.-Feb. 2009 [[SCIE - IF 1.546](#)] ([17722](#)) ([Web of Science](#))

32. "A high-speed long-haul wavelength division multiplexing-based inter-satellite optical wireless communication link using spectral-efficient 2-D orthogonal modulation scheme" International Journal of Communication Systems, John Wiley & Sons, Ltd (ISSN: 1099-1131) [online first] Dec. 2019. [\[SCIE IF 1.319\]\(Web of Science\)](#)
33. "Spectral features based convolutional neural network for accurate and prompt identification of schizophrenic patients" Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, SAGE Publications (ISSN: 2041-3033) Vol. 235, no. 2, pp. 167-184, Feb 2021. [\[SCIE IF 1.282\]\(Web of Science\)](#)
34. "Performance comparison of high-speed long-reach mode division multiplexing-based radio over free space optics transmission system using different modulation formats under the effect of atmospheric turbulence" Optical Engineering, SPIE (ISSN: 0091-3286) Vol.58, no. 4, 046112, April 2019. [\[SCIE - IF 1.113\]\(Web of Science\)](#)
35. "Investigation of 340-Gbps terrestrial FSO link incorporating spectral-efficient DP-QPSK-PolSK hybrid modulation scheme" Optical Engineering, SPIE (ISSN: 0091-3286) Vol.59, no. 11, 046112, Nov 2020. [\[SCIE - IF 1.113\]\(Web of Science\)](#)
36. "Performance comparison of different modulation schemes in high-speed MDM based Radio over FSO transmission link under the effect of atmospheric turbulence using aperture" Wireless Personal Communications, Springer (ISSN: 0929-6212) 111, pp.825–842, OCT 2019. [\[SCIE - IF 1.061\]\(Web of Science\)](#)
37. "Performance Comparison of 2×20 Gbit/s-40 GHz OFDM Based RoFSO Transmission Link Incorporating MDM of Hermite Gaussian Modes Using Different Modulation Schemes" Wireless Personal Communications, Springer (ISSN: 0929-6212) 110, pp.699–711, Sept 2019. [\[SCIE - IF 1.061\]\(Web of Science\)](#)
38. "Modeling and performance analysis of 400 Gbps CO-OFDM based Inter-satellite optical wireless communication (IsOWC) system incorporating polarization division multiplexing with enhanced detection" Wireless Personal Communications, Springer (ISSN: 0929-6212) **111**, 495–511, OCT 2019. [\[SCIE - IF 1.061\]\(Web of Science\)](#)
39. "Long-Reach High-Capacity Hybrid MDM-OFDM-FSO Transmission Link Under the Effect of Atmospheric Turbulence" Wireless Personal Communications, Springer (ISSN: 0929-6212) Vol. 107, pp. 1549–1571 April 2019. [\[SCIE - IF 1.061\]\(Web of Science\)](#)
40. "Performance Investigation of 1.6 Tbps Hybrid WDM-PDM-OFDM-based Free Space Optics Transmission Link" Wireless Personal Communications, Springer

(ISSN: 0929-6212) Vol. 107, pp. 1549–1571 Nov 2020 .[\[SCIE - IF 1.061\]\(Web of Science\)](#)

41. "Development and Performance Investigation of a Single-Channel 160 Gbps Free Space Optics Transmission Link Using Higher Order Modulation Scheme" *Wireless Personal Communications*, Springer (ISSN: 0929-6212) [online first] Jan 2021.[\[SCIE - IF 1.061\]\(Web of Science\)](#)
42. "Cloud based ensemble machine learning approach for smart detection of epileptic seizures using higher order spectral analysis" *Physical and Engineering Sciences in Medicine*, Springer International Publishing, (ISSN: 2662-4737) [online first] Jan 2021 .[\[SCIE - IF 1.006\]\(Web of Science\)](#)
43. "A high-speed single-channel inter-satellite optical wireless communication link incorporating spectrum-efficient orthogonal modulation scheme" *Microwave and Optical Technology Letters*, John Wiley & Sons, Ltd (ISSN:1098-2760) [online first] June 2020. [\[SCIE IF 0.957\]\(Web of Science\)](#)
44. "ICCBP: Inter Cluster Chain Based Protocol with Cross Layer Interaction for Randomly Deployed Wireless Sensor Networks," *Ad Hoc & Sensor Wireless Networks*, Old City Publishing, USA (ISSN: 1551-9899) Vol.36 No.1-4, pp. 257-284, Dec 2016. [\[SCIE - IF 0.851\] \(19700186738\) \(Web of Science\)](#)
45. "Enhanced performance of 40Gbit/s-80GHz OFDM based radio over FSO transmission link incorporating mode division multiplexing under strong atmospheric turbulence" *Optoelectronics And Advanced Materials – Rapid Communications* (ISSN: 1454 – 4164) Vol. 13, No. 7-8, p. 437-447, July-August 2019. [\[SCIE - IF 0.445\]\(Web of Science\)](#)
46. "40Gbit/s-80GHz hybrid MDM-OFDM-Multibeam based RoFSO transmission link under the effect of adverse weather conditions with enhanced detection" *Optoelectronics And Advanced Materials – Rapid Communications* (ISSN: 1454 – 4164) Vol. 14, No. 3-4, p. 146-153, March-April 2020,. [\[SCIE - IF 0.445\]\(Web of Science\)](#)
47. "4×20GBIT/S-40GHZOFDM BASED RADIO OVER FSO TRANSMISSION LINK INCORPORATING HYBRID WAVELENGTH DIVISION MULTIPLEXING-MODE DIVISION MULTIPLEXING OF LG AND HG MODES WITH ENHANCED DETECTION" *Optoelectronics And Advanced Materials – Rapid Communications* (ISSN: 1454 – 4164) Vol. 14, No. 5-6, p. 233-243, May-June 2020,. [\[SCIE - IF 0.445\]\(Web of Science\)](#)
48. "Investigating the Performance of Single and Multichannel Wireless Receivers in Generic-K Fading Channels," *Maejo International Journal of Science and Technology*, ISSN 1905-7873, Vol.5, No.1, pp. 96–107, Mar. 2011 [\[SCIE - IF 0.326\] \(19700170618\) \(Web of Science\)](#)

49. "A Unified Approach to Performance Analysis of Multihop Relay Fading Channels Using Generalized Gamma Model" *Frequenz*, (ISSN: 0016-1136) Vol.69, No.07-08 pp. 341 - 347, June 2015 [**SCIE - IF 0.543**] (**16718**) (**Web of Science**)
50. "PSYCHOLOGICAL STRESS AND FEAR IN SALARIED CLASS DUE TO CORONAVIRUS: ANALYSIS OF FACEBOOK POSTS" *Psychiatr Danub.* , NLM, Vol.33, no.1, pp.126-127 Spring, 2021. **PMID: 33857060**