



Dr. Rizwan Aslam Butt

Objective	To pursue a challenging research and academic career in the field of Optical and Communication Network Engineering to benefit humanity.
Personal Information	Father's Name Muhammad Aslam Nationality Pakistani Date of Birth 1 st January 1982 N.I.C. No. 42201-0548644-3 Marital Status Married Address R-66, Gulshan-e-Qadri-III, Malir Halt, Karachi-43, Sindh, Pakistan Contact No +923352885709 (call / Whatsapp) Email rizwan.aslam@neduet.edu.pk
Qualification	2015-2018 PhD Electrical Engineering from UTM Malaysia (Achieved Best Postgraduate Student Award and Pro-Chancellor Award) 2011- 2013 M.Engg Telecom from NED UET Pakistan (with 3.89 CGPA) 2007- 2010 MS CS & IT from NED UET Pakistan (with 3.8 CGPA) 2001-2005 B.E. Electronics from NED UET Pakistan (82% marks & Distinction)
Publications	<ul style="list-style-type: none"> ❖ Total Publications = 81 ❖ JCR Listed Journal Papers = 35 ❖ Accumulative Impact Factor = 80 (approx.) ❖ H-Index = 20 & i-10th index = 33 🚩 List of Publications is attached with at the end.
Undergraduate Teaching Experience	<ul style="list-style-type: none"> ✓ Currently working as Assistant Professor in Telecom Engineering Department at NED UET Karachi since 2021 and taught/teaching following subjects ; ➤ Telecommunication Networks ➤ Digital Logic Design ✓ Served as Assistant Professor in Electronic Engineering Department at NED UET

	<p>Karachi from Jan 2010 and to 2021 and taught following subjects ;</p> <ul style="list-style-type: none"> ✓ Telecommunication Networks ✓ Digital Signal Processing ✓ Electronics-I ✓ Basic Electronics ✓ Amplifiers and Oscillators ✓ Digital Electronics ✓ Telecommunication Network Management
<p>Teaching Experience Postgraduate</p>	<ul style="list-style-type: none"> ➤ Taught AI in Telecommunications course in Fall 2023 Semester in M.Engg Telecommunications ➤ Taught following courses to M.Engg (Telecom) and M.S Telecommunication system Programs in NED University; <ul style="list-style-type: none"> ✓ Communication Security/Data Security ✓ Data Communication ✓ Smart Grid System Security ✓ Optical Networks ✓ Communication Networks ➤ Teach / Taught following courses to PhD students ; <ul style="list-style-type: none"> ✓ Research Methodology ✓ Advanced Topics in Digital Communication ✓ Optoelectronics and Optical Communication ✓ Internet of Things
<p>M.S / PhD Research Supervision</p>	<ul style="list-style-type: none"> ➤ Supervising 03 PhD student as main Supervisor at NED UET Karachi on following Topics / Titles; <ul style="list-style-type: none"> ✓ Solar Nanogrid Cluster for smart city applications. ✓ Woven Fabric weave identification and characterization using visual sensor network. ✓ Inter-Optical Network Unit Communication for Next Generation Passive Optical Networks. ➤ Co-Supervising 02 PhD students at NED UET Pakistan with Prof. Dr. Attaullah Khawaja as main Supervisor on following topics; <ul style="list-style-type: none"> ✓ OFDM based Wideband anti-jamming schemes. ✓ Ionospheric Total Electron Content Forecasting Using GNSS & Deep Learning Techniques Total Electron content Forecasting ➤ Supervising 01 Thesis student in M.Engg Telecommunications at NED UET

	<p>Pakistan in Spring 2023 Semester.</p> <ul style="list-style-type: none"> ➤ Till now Supervised 07 Masters Thesis students in M.Engg Telecommunication and 05 student in M.Engg Electronics at NED UET Pakistan. ➤ Co-Supervised 02 PhD students at UTM Malaysia with Prof. Dr. Sevia as main Supervisor.
Journal Article Reviewer	<ol style="list-style-type: none"> 1. International Journal of Electrical and Computer Engineering (IJECE). 2. Energy Reports 3. Optical Switching and Networking 4. Fiber and Integrated Optics 5. Optical Fiber Technology (OFT) 6. Transactions on Emerging Telecommunications Technologies 7. IEEE Access 8. International Journal of Communication System (IJCS) 9. Journal of Microprocessors and Microsystems 10. Telecommunication Systems 11. Acta Polytechnica 12. Scientific Reports Springer Nature 13. Satellite Communication and Networking 14. MDPI Sensors 15. MDPI Sustainability 16. MDPI Applied Sciences 17. PLOS1 18. Sustainable Computing and Informatics
Conference TPC member	<ul style="list-style-type: none"> ✓ International Conference on Photonics ICP 2016 (Sarawak, Malaysia) ✓ Fiber Optics Access Network (FOAN) 2019 (Sarajevo, Bosnia) ✓ Fiber Optics Access Network (FOAN) 2022, Valencia, Spain ✓ INTERACT 2023, 15-16 March 2023, Karachi, Pakistan.
Research Grants	<ul style="list-style-type: none"> ✓ Have got a Most Endowment Funding of PKR. 2.99 million on the PhD research project titled “Bandwidth Efficient Inter ONU Communication Enabled Physical and MAC Layer Architecture for Next Generation PON” for two years effective from Jan 2024. ✓ Have got a PKR. 1.8 Million research grant in April 2022 from Sindh HEC titled “Smart IOT enabled ground birds farming” ✓ Got start-up Research grant (SRGP 1981) for one year of PKR 280000/- from Higher Education Commission Pakistan. ✓ Have got 06 IGNITE final year research project grants till now. ✓ 0.5 Million PKR PhD Research Grant on Turbo Coded OFDM based wide band anti jamming project. ✓ 0.25 Million PKR PhD Research Grant on Deep learning based TEC Forecasting. ✓ 1 Million PKR PhD Research grant on PhD Project titled “ Solar Nanogrid Clustering for smart cities” ✓ 1 Million PKR PhD Research grant on PhD Project titled “Inter Optical Network Unit

	<p>Communication for Next Generation Passive Optical Networks”</p> <ul style="list-style-type: none"> ✓ 1 Million PKR PhD Research grant on PhD Project titled “Intelligent Real time Fabric Weave Identification and characterization using visual sensors network for textile applications”
Awards	<ul style="list-style-type: none"> ✓ Nominated for Best Publication Research Award 2022 from NED Alumni Association of North America. ✓ Received Best Researcher Awards 2019 from NED University of Engineering and Technology, Karachi Pakistan ✓ Received Best Researcher Awards 2020 from NED University of Engineering and Technology, Karachi Pakistan ✓ Received Best Researcher Awards 2021 from NED University of Engineering and Technology, Karachi Pakistan ✓ Received Best Researcher Awards 2022 from NED University of Engineering and Technology, Karachi Pakistan ✓ Received Best Researcher Awards 2023 from NED University of Engineering and Technology, Karachi Pakistan ✓ Received Best Publication Research Award 2020 from NED Alumni Association of North America. ✓ Received Pro-Chancellor Award from UTM Malaysia in its 60th Convocation in 2018. ✓ Received Best Postgraduate Student Award from UTM Malaysia in its 60th Convocation in 2018.
Key Projects Supervised / Completed	<ul style="list-style-type: none"> ✓ Wifi enabled LASER based Acrylic and Wooding cutter/engraver machine. ✓ Solar Nanogrid Clustering project with four solar Nanogrid nodes ✓ 1000 Watt pure Sinewave Inverter design using AVR microcontroller. ✓ 500 Watt Modified Square Wave inverter using PIC microcontroller. ✓ Brain Controlled Robotic Car using EEG Headset. ✓ Automatic Agriculture land watering system using Arduino based embedded control system. ✓ Home power monitoring and management system using Arduino microcontroller based embedded system. ✓ IOT based smart car parking system using IR sensors.
Management Experience	<ul style="list-style-type: none"> ✓ Served as Class Adviser Second Year Telecom Engineering from 2012 to 2015. ✓ Served as PhD Coordinator Electronic Engineering Department from 2018 to 2020. ✓ Serving as M.Engg Coordinator Telecommunications Engineering Department since 2020. ✓ Has been part of the part of the core cell of Objective Based Education (OBE) for Electronic and Telecom Engineering departments from 2019 to 2021. ✓ Still part of the OBE team of Telecommunications Engineering Department of NED UET.

Industry Job Experience	<ul style="list-style-type: none"> ✓ Worked for 04 years with PTCL as Engineer Operations in different departments and posts as follows; <ul style="list-style-type: none"> ➤ Operations Engineers Landhi Exchange Karachi. ➤ Operations Engineers Clifton-II Exchange Karachi. ➤ Engineer and Senior Engineer (Look after) in Optical Fiber System and Digital Cross connect (DXX), Pak-Capital Exchange Karachi. ➤ Engineer and Senior Engineer (Look after) Regional NOC Pak-Capital Exchange Karachi.
References	<ul style="list-style-type: none"> • Professor Dr. Attaullah Khawaja, Chairman Electrical Engg. Dept. NED University of Engineering Pakistan (atta@neduet.edu.pk) • Professor Sevia Mahdaliza Idrus Universiti Teknologi, Johor Bahru, Malaysia (sevia@fke.utm.my, sevia@utm.my) • Mr. Zulfiqar Dar, General Manager FAW Motors Pakistan (zulfiqar.dar@alhajfaw.com)

List of Publications of Dr. Rizwan Aslam Butt

- ❖ Total JCR Journal Papers = 35
- ❖ Total Master List Journal Papers = 16
- ❖ Other Scopus / Peer Reviewed Journal = 7
- ❖ Conference Papers = 17
- ❖ Book Chapters = 01
- ❖ Accumulative Impact Factor = 70 (approx.)
- ❖ H-Index = 19, i-10th index = 33

ISI Indexed Impact Factor (JCR) Journal Papers

1. **Butt, R. A.**, Idrus, S. M., Qureshi, K. N., Zulkifli, N., & Mohammad, S. H, "Improved Dynamic Bandwidth Allocation Algorithm for XGPON", *Journal of Optical Communications and Networking*, vol. 9, no. 1, pp. 87-97, 2017. (**JCR 2017 IF = 2.742, Q1**)
2. **Butt, Rizwan Aslam**, Sevia Mahdaliza Idrus, Kashif Naseer Qureshi, Pir Meher Ali Shah, and Nadiatulhuda Zulkifli, "An Energy Efficient Cyclic Sleep Control Framework for ITU PONs." *Optical Switching and Networking*, vol. 27, no. 1, pp.7-17, 2017. (**JCR 2017 IF = 1.113, Q3**)
3. **Butt, Rizwan Aslam**, Sevia M. Idrus, Zulkifli, N. and M. Waqar Ashraf (2017), "Comprehensive Bandwidth Utilization and Polling mechanism for XGPON", *International Journal of Communication system (Wiley)*, vol. 31, issue. 3, pp. 1-18. (**ISI Journal IF = 1.066**).
4. Qureshi, Kashif Naseer, Abdul Hanan Abdullah, Omprakash Kaiwartya, Saleem Iqbal, **Rizwan Aslam Butt**, and Faisal Bashir. "A Dynamic Congestion Control Scheme for safety applications in

- vehicular ad hoc networks.* *Computers & Electrical Engineering* (2017). (**JCR 2017 IF = 1.747, Q3**)
5. **Butt, Rizwan Aslam**, M. Waqar Ashraf, M. Faheem, and Sevia M. Idrus. "Processing efficient frame structure for passive optical network (PON)." *Optical Switching and Networking* 30, November 2018: 85-92. (**JCR 2017 IF = 1.113, Q3**)
 6. Faheem, M., S. B. H. Shah, **R. A. Butt**, B. Raza, M. Anwar, M. W. Ashraf, Md A. Ngadi, and V. C. Gungor. "Smart grid communication and information technologies in the perspective of Industry 4.0: Opportunities and challenges." *Computer Science Review* 30 (2018): 1-30. (Q1 **JCR 2017, IF = 3.0**)
 7. Faheem, M., **R. A. Butt**, B. Raza, M. W. Ashraf, Seema Begum, Md A. Ngadi, and V. C. Gungor. "Bio-inspired routing protocol for WSN-based smart grid applications in the context of Industry 4.0." *Transactions on Emerging Telecommunications Technologies*: e3503. (**JCR 2017, Journal IF = 1.606, Q3**)
 8. M. Waqar Ashraf, Farabi Iqbal, Sevia M. Idrus and **Butt, Rizwan Aslam**, On Spatially-Disjoint Lightpaths in Optical Networks. *Photonic Network Communications*, 2018. (**ISI Journal IF = 1.203, Q3**)
 9. **R. A. Butt**, S. M. Idrus, N. Zulkifli, and M. Waqar Ashraf, "Comprehensive bandwidth utilization and polling mechanism for XGPON," *International Journal of Communication Systems*, vol. 31, no. 3, pp. 1–18, 2017. (**JCR IF = 1.717, Q2**)
 10. **Butt, Rizwan Aslam**, M. Waqar Ashraf, M. Faheem, and Sevia M. Idrus. "Sleep Assistive Dynamic Bandwidth Assignment scheme for XGPON." *Photonic Network Communications*, 2018, (**ISI Journal IF = 1.113, Q3**)
 11. Ashraf, M. Waqar, Sevia M. Idrus, **R. Aslam**, and Farabi Iqbal. "Capacity-bounded lightpath routing in WDM optical networks." *Optical Fiber Technology* 48 (2019): 50-57. (**ISI Journal IF = 1.824, Q2**)
 12. Faheem, M., **R. A. Butt**, B. Raza, M. W. Ashraf, Seema Begum, Md A. Ngadi, and V. C. Gungor. "Energy efficient and reliable data gathering using internet of software-defined mobile sinks for WSNs-based smart grid applications." *Computer Standards & Interfaces*, vol. 66, no. 103341, OCT (2019) (**JCR IF = 1.465, Q2**)
 13. Ashraf, M. Waqar, Sevia M. Idrus, Rizwan Aslam Butt, and Farabi Iqbal. "Post- Disaster least loaded lightpath routing in elastic optical networks." *International Journal of Communication Systems* (2019): volume 32, issue 8, pp:e3920. (**ISI Journal IF = 1.824, Q2**)
 14. **Butt, Rizwan Aslam**, M. Faheem, Asad Arfeen, M. Waqar Ashraf, and Mehwish Jawed. "Machine learning based dynamic load balancing DWBA scheme for TWDM PON." *Optical Fiber Technology* 52 (2019): 101964. . (**JCR IF = 1.2, Q2**)
 15. Faheem, Muhammad, **Rizwan Aslam Butt**, Basit Raza, Hani Alquhayz, Muhammad Zahid Abbas, Md Asri Ngadi, and Vehbi Cagri Gungor. "A Multiobjective, Lion Mating Optimization Inspired Routing Protocol for Wireless Body Area Sensor Network Based Healthcare Applications." *Sensors* 19, no. 23 (2019): 5072. (**JCR IF = 2.475, Q2**)
 16. Ali, Kamran, Qi Zhang, **Rizwan Aslam Butt**, Khalid Hussain Mohammadani, Muhammad Faheem, Noor Ul Ain, Feng Tian, and Xiangjun Xin. "Traffic-Adaptive Inter Wavelength Load Balancing for TWDM PON." *IEEE Photonics Journal* (2019). (**JCR IF = 2.729, Q1**)
 17. Faheem, Muhammad, **Rizwan Aslam Butt**, Basit Raza, Hani Alquhayz, Muhammad Waqar Ashraf, Syed Bilal Shah, Md Asri Ngadi, and Vehbi Cagri Gungor. "QoS-RP: A Cross-Layer QoS Channel-Aware Routing Protocol for the Internet of Underwater Acoustic Sensor Networks." *Sensors* 19, no. 21 (2019): 4762. (**JCR IF = 2.475, Q2**)

18. **Butt, Rizwan Aslam**, M. Faheem, and M. Waqar Ashraf. "Efficient upstream bandwidth utilization with minimum bandwidth waste for time and wavelength division passive optical network." *Optical and Quantum Electronics*, 52 (1):14, (2020). (JCR IF = 1.54, Q2)
19. Faheem, M., **Butt, R.A.**, Raza, B., Alquhayz, H., Ashraf, M.W., Raza, S. and Ngadi, M.A.B., 2020. FFRP: Dynamic Firefly Mating Optimization Inspired Energy Efficient Routing Protocol for Internet of Underwater Wireless Sensor Networks. *IEEE Access*, 8, pp.39587-39604, (2020) (JCR IF = 4.098, Q1)
20. Mohammadani, Khalid, **Rizwan Aslam Butt**, Kamran Ali Memon, Fayaz Hassan, Abdul Majeed, and Rajesh Kumar. "Highest Cost First-Based QoS Mapping Scheme for Fiber Wireless Architecture." In *Photonics*, vol. 7, no. 4, p. 114. (JCR IF= 2.14)
21. Memon, Kamran Ali, **Rizwan Aslam Butt**, Khalid Hussain Mohammadani, Bhagwan Das, Sibghat Ullah, Saleemullah Memon, and Noor ul Ain. "A Bibliometric Analysis and Visualization of Passive Optical Network Research in the Last Decade." *Optical Switching and Networking* 39 (2020): 100586. (JCR 2017 IF = 1.113, Q3)
22. Muhammad Faheem, **Rizwan Aslam Butt**, Rashid Ali, Basit Raza, Md. Asri Ngadi, Vehbi Cagri Gungor, CBI4.0: A cross-layer approach for big data gathering for active monitoring and maintenance in the manufacturing industry 4.0, *Journal of Industrial Information Integration*, Volume 24, 2021, pp: 100236.
23. **Butt, R. A.**, Faheem, M., Ashraf, M. W., Arfeen, A., Memon, K. A., & Khawaja, A. (2021). Sleep-aware wavelength and bandwidth assignment scheme for TWDM PON. *Optical and Quantum Electronics*, 53(6), 1-23.
24. H.Mohammadani, MonirHossen, Rizwan A.Butt, Kamran Ali Memond and M. MujtabaShaikh "Capacity-bounded lightpath routing in WDM optical networks." *Optical Fiber Technology* (2021, In Press). (ISI Journal IF = 1.824, Q2)
25. Shah, Pir Meher Ali, Shahryar Shafique Qureshi, **Rizwan Aslam Butt**, Sevia Mahdaliza Idrus, and Jawad Mirza. "Design and analysis of 5G network architecture with orthogonal frequency division multiple access based passive optical network." *Optical Fiber Technology* 67 (2021): 102678.
26. Mohammadani, Khalid H., Monir Hossen, **Rizwan A. Butt**, Kamran Ali Memon, and M. Mujtaba Shaikh. "ONU migration using network coding technique in Virtual Multi-OLT PON Architecture." *Optical Fiber Technology* 68 (2022): 102788.
27. Hussain Mohammadani, Khalid, **Rizwan Aslam Butt**, Kamran Ali Memon, Safiullah Faizullah, and Muhammad Ishfaq. "Bayesian auction game theory-based DBA for XG symmetrical PON." *Optical and Quantum Electronics* 54, no. 5 (2022): 1-21.
28. Ashraf, M. Waqar, **Rizwan Aslam Butt**, M. Faheem, M. Tariq, and Abid Munir. "Disaster-resilient lightpath routing in WDM optical networks." *Optical and Quantum Electronics* 54, no. 3 (2022): 1-23.
29. **Butt, Rizwan Aslam**, Adnan Akhunzada, Muhammad Faheem, and Basit Raza. "Enhanced Energy Savings with Adaptive Watchful Sleep Mode for Next Generation Passive Optical Network." *Energies* 15, no. 5 (2022): 1639.
30. Mohammadani, Khalid Hussain, **Rizwan Aslam Butt**, Kamran Ali Memon, Nazish Nawaz Hussaini, and Arshad Shaikh. "Load adaptive merging algorithm for multi-tenant PON environments." *Optical Switching and Networking* (2023), vol 47, pp: 100712.
31. Shah, Pir Meher Ali, Shahryar Shafique Qureshi, Rizwan Aslam Butt, Sevia Mahdaliza Idrus, and Jawad Mirza. "Design and analysis of 5G network architecture with orthogonal frequency division multiple access based passive optical network." *Optical Fiber Technology* 67 (2021): 102678.
32. **Butt, Rizwan Aslam**, Muhammad Faheem, Muhammad Anwar, Khalid H. Mohammadani, and Sevia M. Idrus. "Traffic aware cyclic sleep-based power consumption model for a passive optical network." *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields* (2022): e2996.
33. Shahid, Muhammed, **Rizwan Aslam Butt**, and Attaullah Khawaja. "Fiscal-and Space-Constrained Energy Optimization Model for Hybrid Grid-Tied Solar Nanogrids." *Energies* 15, no. 21 (2022): 8080.
34. Edeagu, S.O., Butt, R.A., Idrus, S.M. and Gomes, N.J., 2023. A hybrid dynamic bandwidth allocation scheme operating with IACG and cooperative DBA for converged fronthaul networks. *Optical Fiber Technology*, 75, p.103199.
35. Amir, M., Ahmed, K., Hasany, S.F. and **Butt, R.A.**, 2023. Non-Covalent Bonding of Green Synthesized Copper Nanoparticles to enhance Physicochemical behavior of Sulfur-Dyed Cotton Fabric. *AATCC Journal of Research*, p.24723444231161742., 2023

36. Rehman, Shahid Ur, Sevia M. Idrus, Raja Zahillah Radzi, Mohd Shahrill Salleh, and **Rizwan Aslam Butt**. "Effect of channel spacing on the signal quality for bi-directional TWDM PON." *JURNAL TEKNOLOGI* 78, no. 3 (2016): 281-286. (ISI Master List Journal)
37. M. Waqar Ashraf, Farabi Iqbal, Sevia M. Idrus and **Butt, Rizwan Aslam**, M. Faheem, "Disaster-Resilient Optical Survivability: a Comprehensive Survey" MDPI Photonics, 2018. (ISI Master List Journal)
38. **Butt, Rizwan Aslam**, M. Faheem, M. Waqar Ashraf, Attaullah Khawaja and Basit Raza." Attack-Aware Dynamic Upstream Bandwidth Assignment Scheme for Passive Optical Network." *Journal of Optical Communications*, 2019, <https://doi.org/10.1515/joc-2019-0142> (ISI Master List Journal)
39. **Rizwan A. Butt**, Sevia M. Idrus, Shahid-Ur Rehman, Pir Meher Ali Shah and Zulkifli, N. (2017), "Comprehensive Polling and Scheduling Mechanism for Long Reach Gigabit Passive Optical Network", *Journal of Optical Communication*, DOI 10.1515/joc-2017-0026, 2017. (ISI Master List Journal)
40. **Butt, Rizwan Aslam**, M. Waqar Ashraf, M. Faheem, and Sevia M. Idrus. "A Survey of Dynamic Bandwidth Assignment Schemes for TDM-Based Passive Optical Network." *Journal of Optical Communications*. (ISI Master List Journal)
41. Faheem, Muhammad, Ghulam Fizza, Muhammad Waqar Ashraf, **Rizwan Aslam Butt**, Md Asri Ngadi, and Vehbi Cagri Gungor. "Big Data acquired by Internet of Things-enabled industrial multichannel wireless sensors networks for active monitoring and control in the smart grid Industry 4.0." *Data in Brief* 35 (2021): 106854.
42. Mohammadani, Khalid H., Rizwan A. Butt, Kamran A. Memon, Azhar A. Pirzado, Muhammad Faheem, Adeel Abro, Babar Ali, and Noor-ul Ain. "A QoS provisioning architecture of fiber wireless network based on XGPON and IEEE 802.11 ac." *Journal of Optical Communications* (2021). (ISI Master List Journal)
43. Ashina Sadiq, Muhammad Anwar, **Rizwan A. Butt**, Farhan Masud, optical fiber K. Shahzad, Shahid Naseem, Muhammad Younas, " A review of phishing attacks and countermeasures for internet of things-based smart business applications in industry 4.0" *Human Behavior and Emerging technologies* (2021). (ISI Master List Journal)
44. Faheem, Muhammad, and **Rizwan Aslam Butt**. "Big datasets of optical-wireless cyber-physical systems for optimizing manufacturing services in the internet of things-enabled industry 4.0." *Data in Brief* 42 (2022): 108026.
45. Shaikh, M.M., Butt, R.A. and Khawaja, A., 2023. Forecasting total electron content (TEC) using CEEMDAN LSTM model. *Advances in Space Research*, 71(10), pp.4361-4373.

Other Indexed Journal Papers

46. **Butt, R. A.**, Idrus, S. M., Radzi, R. Z., & Qureshi, K. N. (2016). Energy Efficient Frame Structure for Gigabit Passive Optical Networks. *International Journal of Electrical and Computer Engineering*, 6(6), 2971. (Scopus)
47. **Butt, R. A.**, Hasunah Mohammad, S., Idrus, S. M., & Rehman, S. U. (2015). Evolution of Access Network from Copper to PON—Current Status, *ARNP Journal of Engineering and Applied Sciences*. 10 (18). (Scopus)
48. **Butt, Rizwan Aslam**, Muhammad Yasir Anwar, Muhammad Waqar Ashraf, and Muhammad Zuhair Arfeen. "A novel scheduling and polling mechanism for upstream bandwidth assignment in a Passive Optical Network." *Technical Journal*, 23, no. 01 (2018): 64-73. (HEC Recognized 'Y' Category Journal)
49. **Butt, Rizwan Aslam**, M. Waqar Ashraf, M. Faheem, and Sevia M. Idrus , (2018). Survey of Energy Conservation Schemes for Present and Next Generation Passive Optical Networks. *Journal of communication (JCM)*, vol. 13, issue. 3, pp. 129-138. (Indexed in Scopus and Ulrich)
50. Anwar, Muhammad, Abdul Hanan Abdullah, **Rizwan Aslam Butt**, Muhammad Waqar Ashraf, Kashif Naseer Qureshi, and Fasee Ullah. "Securing Data Communication in Wireless Body

Area Networks Using Digital Signatures." *Technical Journal* 23, no. 02 (2018): 50-55. (HEC Recognized 'Y' Category Journal)

51. **Butt, R. A.**, Ali, S. M. U., & Shahid ur Rehman, S. Cost effective WSN Network Monitoring and Control using Modified SNMP. *International Journal of Emerging Technology and advance Engineering (IJETAE)* Vol, 3, 735-740. (Peer Reviewed Journal)
52. Ismail, N. A., Sevia Mahdaliza Idrus, **R. A. Butt**, F. Iqbal, A. M. Zin, and F. Atan. "Performance evaluation of comprehensive bandwidth utilization for 10-gigabit passive optical network." *Bulletin of Electrical Engineering and Informatics* 8, no. 3 (2019): 1047-1052.

Conference Papers

53. **Rizwan Aslam Butt**, Siti Hasunah Mohammad, Sevia M. Idrus, Shahid Ur Rehman (2015). "Evolution of Access Networks from Copper to PON-Current Status". International Conference on Electrical and Electronic Engineering (IC3E), 10-11 Aug 2015, Malacca, Malaysia.
54. **Butt, R. A.**, Idrus, S. M., & Zulkifli, N. (2016). Comparative analysis of cyclic and watchful sleep modes for GPON. In *Photonics (ICP), 2016 IEEE 6th International Conference on* (pp. 1-3). IEEE.
55. Hasunah Mohammad S., **Aslam Butt R.**, Zulkifli N. and Mahdaliza Idrus S. "Extended WiMAX QoS-Aware Scheduling for Integrated CWDM-PON and WiMAX Network". International Conference on Electrical and Electronic Engineering (IC3E 2015), 10-11 Aug 2015, Malacca, Malaysia.
56. **Butt, R. A.**, & Buriro, A. (2011, October). Secure LAN management with SNMPv2 over IPsec. In *Telecommunication Systems, Services, and Applications (TSSA), IEEE 2011 6th International Conference on* (pp. 271-274).
57. **Butt, R. A.**, & Ali, S. M. U. (2013). Semantic Mapping and Motion Planning with Turtlebot Roomba. In *IOP Conference Series: Materials Science and Engineering* (Vol. 51, No. 1, p. 012024). IOP Publishing.
58. N. A. Ismail, N.A.M. Zin, S.M. Idrus, **R.A. Butt**, F. Iqbal, "Review on Dynamic Bandwidth Allocation and Energy Efficient Schemes for ITU PON," in *2018 International Conference on Radar, Antenna, Microwave, Electronics, and Telecommunications (ICRAMET)*, 2018, pp. 131–134.
59. Zin, A. M., S. M. Idrus, N. A. Ismail, A. Ramli, and **R. A. Butt**. "Energy Efficient Performance Evaluation of XG-PON for Sustainable Green Communication Infrastructure." In *2018 Progress in Electromagnetics Research Symposium (PIERS-Toyama)*, pp. 950-955. IEEE, 2018.
60. Faheem, Muhammad, Muhammad Umar, **Rizwan Aslam Butt**, Basit Raza, Md Asri Ngadi, and Vehbi Cagri Gungor. "Software Defined Communication Framework for Smart Grid to Meet Energy Demands in Smart Cities." In *2019 7th International Istanbul Smart Grids and Cities Congress and Fair (ICSG)*, pp. 51-55. IEEE, 2019.
61. Faheem, Muhammad, Muhammad Waqar Ashraf, **Rizwan Aslam Butt**, Basit Raza, Md Asri Ngadi, and Vehbi Cagri Gungor. "Ambient Energy Harvesting for Low Powered Wireless Sensor Network based Smart Grid Applications." In *2019 7th International Istanbul Smart Grids and Cities Congress and Fair (ICSG)*, pp. 26-30. IEEE, 2019.
62. **Butt, Rizwan Aslam**, Mehwish Jawaid, M. Waqar Ashraf, and Muhammad Faheem. "Load Adaptive Dynamic Wavelength and Bandwidth Assignment for TWDM PON." In *2019 International Workshop on Fiber Optics in Access Networks (FOAN)*, pp. 101-105. IEEE, 2019.
63. Ismail, N. A., Sevia Mahdaliza Idrus, **R. A. Butt**, F. Iqbal, A. M. Zin, and F. Atan. "Performance evaluation of comprehensive bandwidth utilization for 10-gigabit passive optical network." *Bulletin of Electrical Engineering and Informatics* 8, no. 3 (2019): 1047-1052.
64. Edeagu, Samuel O., **Rizwan A. Butt**, Sevia M. Idrus, and Nathan J. Gomes. "Performance of PON Dynamic Bandwidth Allocation Algorithm for Meeting xHaul Transport Requirements." In *2021 International Conference on Optical Network Design and Modeling (ONDM)*, pp. 1-6. IEEE, 2021.

65. Akram, Noreen, **Rizwan Aslam Butt**, Ambreen Akram, and Syed Rehan Ali Zaidi. "Machine Learning based Efficient Facial Expression Recognition Algorithm." In *2022 Global Conference on Wireless and Optical Technologies (GCWOT)*, pp. 1-8. IEEE, 2022.
66. Akram, Noreen, Rizwan Aslam Butt, and Muhammad Aamir. "A survey on Light-Path Elastic Optical Networks." In *2022 Global Conference on Wireless and Optical Technologies (GCWOT)*, pp. 1-7. IEEE, 2022.
67. Qureshi, M.A., Butt, R.A., Arfeen, M.Z. and Akram, N., 2022. Fully Automatic Weave Identification in Woven Fabrics Using Digital Image Processing. *Engineering Proceedings*, 20(1), p.1.
68. Akram, N., Butt, R.A., Akram, A. and Zaidi, S.R.A., 2022, February. Machine Learning based Efficient Facial Expression Recognition Algorithm. In *2022 Global Conference on Wireless and Optical Technologies (GCWOT)* (pp. 1-8). IEEE.
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Book Chapters

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