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Nationality: Pakistan

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Employment History

- 2016 – to date **Assistant Professor.** Balochistan University of Information Technology, Engineering and Management Sciences, Quetta, Pakistan.
- 2010 – 2016 **Lecturer.** Balochistan University of Information Technology, Engineering and Management Sciences, Quetta, Pakistan.


Education

- 2019 – 2023 **Ph.D. Electrical Engineering, Zhejiang University, PRC.**
Thesis title: *Renewable Energy Provision and Energy-efficient Strategy towards Sustainable 5G Communication Infrastructure.*
- 2013 – 2015 **M.S. Telecommunication Engineering, Balochistan University of Information Technology, Engineering and Management Sciences, Quetta, Pakistan.**
Thesis title: *Performance Analysis of Downlink Linear Precoding in Massive MIMO Systems Under Imperfect CSI.*
- 2005 – 2009 **B.S. Telecommunication Engineering, Balochistan University of Information Technology, Engineering and Management Pakistan .**




Research Publications

Journal Articles


- 1 A. Israr, Q. Yang, and A. Israr, "Cost-efficient microgeneration renewable energy provision dimensioning for sustainable 5g heterogeneous network," *Sustainable Energy, Grids and Networks*, p. 101493, 2024.
- 2 A. Israr, Q. Yang, and A. Israr, "Renewable microgeneration cooperation with base station sleeping-mode strategy for energy-efficient operation of 5g infrastructures," *Sustainable Energy, Grids and Networks*, p. 101358, 2024.
- 3 A. Israr, Q. Yang, and A. Israr, "Emission-aware sustainable energy provision for 5g and b5g mobile networks," *IEEE Transactions on Sustainable Computing*, pp. 1–12, 2023. [DOI: 10.1109/TSUSC.2023.3271789.](#)
- 4 A. Israr, Q. Yang, and A. Israr, "Renewable energy provision and energy-efficient operational management for sustainable 5g infrastructures," *IEEE Transactions on Network and Service Management*, vol. 20, no. 3, pp. 2698–2710, 2023. [DOI: 10.1109/TNSM.2023.3244618.](#)
- 5 A. Israr and A. Israr, "Optimal free space optical fronthaul framework for 5g cran," *International Journal of Information Technology*, vol. 15, Jul. 2023. [DOI: 10.1007/s41870-023-01371-y.](#)
- 6 A. Israr, Q. Yang, and A. Israr, "Power consumption analysis of access network in 5g mobile communication infrastructures — an analytical quantification model," *Pervasive and Mobile Computing*, vol. 80, p. 101544, 2022, ISSN: 1574-1192. [DOI: https://doi.org/10.1016/j.pmcj.2022.101544.](#)

- 7 A. Israr, Q. Yang, W. Li, and A. Y. Zomaya, "Renewable energy powered sustainable 5g network infrastructure: Opportunities, challenges and perspectives," *Journal of Network and Computer Applications*, vol. 175, p. 102 910, 2021, ISSN: 1084-8045.  DOI: <https://doi.org/10.1016/j.jnca.2020.102910>.
- 8 A. Israr, A. Israr, F. Khan, and F. Khan, "Optimal modulation technique for mimo fso link," *Wireless Personal Communications*, vol. 109, pp. 695–714, 2019.
- 9 A. Israr, Z. Rauf, J. Muhammad, and F. Khan, "Performance analysis of downlink linear precoding in massive mimo systems under imperfect csi," *Wireless Personal Communications*, vol. 96, pp. 2603–2619, 2017.




Conference Proceedings

- 1 S. Yang, Q. Ding, Q. Wang, *et al.*, "Data quality improvement method for power energy consumption analysis in customer-side management," in *Tenth International Conference on Applications and Techniques in Cyber Intelligence (ICATCI 2022)*, J. H. Abawajy, Z. Xu, M. Atiquzzaman, and X. Zhang, Eds., Cham: Springer International Publishing, 2023, pp. 668–674, ISBN: 978-3-031-28893-7.
- 2 W. Zheng, K. Sun, X. Zhang, Q. Zhang, A. Israr, and Q. Yang, "Cellular communication for ubiquitous internet of things in smart grids: Present and outlook," in *2020 Chinese Control And Decision Conference (CCDC)*, 2020, pp. 5592–5596.  DOI: [10.1109/CCDC49329.2020.9164273](https://doi.org/10.1109/CCDC49329.2020.9164273).
- 3 R. Qadar, M. K. Kasi, A. Israr, *et al.*, "Wireless optical data transfer in underwater systems," in *OCEANS 2016 - Shanghai*, 2016, pp. 1–6.  DOI: [10.1109/OCEANSAP.2016.7485553](https://doi.org/10.1109/OCEANSAP.2016.7485553).
- 4 A. Israr, M. Junaid, and A. Israr, "Performance analysis of advance optical modulation formats for gpon system," in *2015 13th International Conference on Frontiers of Information Technology (FIT)*, 2015, pp. 77–80.  DOI: [10.1109/FIT.2015.11](https://doi.org/10.1109/FIT.2015.11).

Books and Chapters




- 1 A. Israr and Q. Yang, "Chapter 9 - resilient and sustainable microgeneration power supply for 5g mobile networks," in *Renewable Energy Microgeneration Systems*, Q. Yang, T. Yang, and W. Li, Eds., Academic Press, 2021, pp. 213–228, ISBN: 978-0-12-821726-9.  DOI: <https://doi.org/10.1016/B978-0-12-821726-9.00009-6>.

Skills

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|-----------|---|---|
| Languages |  | Strong reading, writing and speaking competencies for English, Urdu. |
| Coding |  | Python, Matlab |
| Misc. |  | Academic research, teaching, training, consultation, \LaTeX typesetting and publishing. |

Miscellaneous Experience

Awards and Achievements

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|-------------|---|--|
| 2019 - 2023 |  | Chinese Government Scholarship , Ph.D. Electrical Engineering, Zhejiang University, PRC |
| 2015 |  | Gold Medal , M.S. Telecommunication Engineering, Balochistan University of Information Technology, Engineering and Management Sciences, Quetta, Pakistan. |
| 2005 - 2009 |  | Merit Scholarship Award , During Undergraduate, Balochistan University of Information Technology, Engineering and Management Sciences, Quetta, Pakistan. |

References

Available on Request