

TAHIR MALIK (PhD.)

Work Address:

Department of Telecommunications Engineering,
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Pakistan.

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Education

- **PhD. Electrical & Electronic Engineering** July 2011 - Feb. 2016
Dept. of Electrical and Computer Engineering,
University of Canterbury,
New Zealand.
- **MSc. in Telecommunication & Information Systems** Sept. 2005 - Oct. 2006
Distinction in studies,
University of Essex, UK.
- **Bachelor (B.E) of Electrical Engineering** Dec. 1999 - July 2003
National University of Science & Technology,
Pakistan.

Work Experience

NED University of Engineering & Technology, Pakistan

- **Assistant Professor,** July 2021 - Current
Department of Telecommunications Engineering
- **Assistant Professor,** Dec. 2009 – July 2021
Department of Electronic Engineering
- **Lecturer,** Jan. 2008 - Dec. 2009
Department of Electronic Engineering

Administrative Responsibilities

- Class Advisor, Final Year Telecommunications Engineering (various semesters).
- Lab Coordinator, Telecommunications Laboratories (various semesters).
- Factotum, Telecommunications Department (various semesters).
- Undergraduate Telecommunications Curriculum Committee (2022).
- FYDP Evaluation and Review Committee (2022).
- Industrial Advisory Board (IAB), Telecommunications Department NEDUET (2022).

Research Achievements/Grants

- **Sindh Higher Education Commission (SHEC) SRSP. (April 2022).**
Co-Principal Investigator, “Prototype Development of High Dimensional Quantum Key Distribution System for a Highly Secure Free-Space Communication System”.
- **Ministry of Science and Technology (MoST) Endowment Fund (2020).**
Grant of Rs 3 Million was obtained through MoST.
- **NGIRI IGNITE Funding, (Govt. of Pakistan).**
Secured IGNITE funding for various Undergraduate Final Year Projects.
- **Center for Quantum Technologies (CQT), NED University.**
Research Member.
- **HEC Approved Supervisor** for Masters & PhD. research studies.

Awards/Honours

- **NED Scholarship** under Faculty Development Programme for PhD. Studies at the University of Canterbury New Zealand (2011-2016).
- Awarded University of Essex **Merit Award** for Achieving **Distinction** in Master’s degree Program (2006).
- Awarded **National University of Sciences & Technology** (Karachi) **Merit scholarship** for obtaining **2nd position** in Undergraduate (BE Electrical) Engineering Program. 2000-2003.
- Secured **Ministry of Sciences & Technology** (Govt. of Pakistan) IT Human Resource Development Program **Scholarship** for Undergraduate Engineering Degree Program.

Research Publications

- **“Coherent detection of discrete variable quantum key distribution using homodyne technique”**, Muhammad Kamran, **Tahir Malik**, Ayesha Jamal, Muhammad Fahim UI Haque & Muhammad Mubashir Khan, *Applied Physics B*, 131, 180 (2025).
<https://doi.org/10.1007/s00340-025-08531-x>
- **“Randomness from radiation: evaluation and analysis of radiation-based random number generators”**, Zafar, R., Kamran, M., **Malik, T. et al.**, *The European Physical Journal Plus* **140**, 463 (2025), Accepted 14 May 2025, Published 30 May 2025.
E-ISSN: 2190-5444, **P-ISSN:** 2190-5444,
DOI: <https://doi.org/10.1140/epjp/s13360-025-06428-4>
- **“A Novel IFPWM Based all-digital Transmitter Architecture and FPGA implementation”**, Rahman Mehboob, M. Fahim UI Haque, **Tahir Malik**, Ted Johansson, *International Journal of Circuit Theory Applications*, Volume 53, Issue 01, Pages 466 - 476, (January 2025).
Print ISSN: 0098-9886, **E-ISSN:** 1097-007X.
DOI: <https://doi.org/10.1002/cta.4123>

- **“Induced Turbulence in the Quantum Channel of High Dimensional QKD System Using Structured Light”** Muhammad Kamran, Muhammad Mubashir Khan, **Tahir Malik**, Volume 130, Article Number 56, 2024, Published 17 March 2024, Journal of Applied Physics B.
E-ISSN: 1432-0649, Print-ISSN: 0946-2171.
DOI: <https://doi.org/10.1007/s00340-024-08195-z>
- **“Evaluation of eavesdropping error-rates in higher-dimensional QKD system implemented using dynamic spatial modes”**, Muhammad Kamran, **Tahir Malik**, Muhammad Mubashir Khan, Volume No. 19, Issue No. 06, Article No. 2150030, 2021, International Journal of Quantum Information (IJQI),
DOI: <https://doi.org/10.1142/S0219749921500301>
- **“Quantum key distribution over free space optic (FSO) channel using higher order Gaussian beam spatial modes”**, Muhammad Kamran, Muhammad Mubashir Khan, **Tahir Malik**, Asad Arfeen, *Turkish Journal of Electrical Engineering Computer Sciences* (2020) 28: 3335 – 3351.
E-ISSN:1303-6203, ISSN: 1300-0632.
DOI:10.3906/elk-2005-49
- **“Direction of Arrival Estimation in the Presence of Scatterer in Noisy Environment”**, Tahniyat Aslam, Irfan Ahmed, Muhammad Imran Aslam, Syed M. Usman Ali, **Tahir Malik**, *Advanced Electromagnetics*, 6(3), 33-40.
DOI: <https://doi.org/10.7716/aem.v6i3.525>
- **“Decoy state HD QKD system for secure optical communication”**, Muhammad Kamran, Muhammad Mubashir Khan, **Tahir Malik**, submission to ICCWS-2021 (2021 International Conference on Cyber Warfare and Security (ICCWS)), 23rd - 24th November 2021, Islamabad, Pakistan.
- **“A Comparison of Polar and Quadrature RF-PWM”**, Muhammad Fahim Ul Haque, Muhammad Touqir Pasha, **Tahir Malik**, Ted Johansson, 30-31 Oct 2018 *IEEE Nordic Circuits and Systems Conference (NORCAS): NORCHIP and International Symposium of System-on-Chip (SoC)*, Tallinn, 2018, pp. 1-4. DOI: [10.1109/NORCHIP.2018.8573456](https://doi.org/10.1109/NORCHIP.2018.8573456)
- **"Efficient and Accurate Object Tracking Combining TSS and 2DLog Search Technique with SIFT"**, International Conference on Image Processing, Computer Vision, and Pattern Recognition, USA, July 18-20, 2011.
- **"Adaptive Algorithm For Fast And Accurate Video Object Tracking Using SIFT And BMA For Slow And Rapid Movements"**, International Conference on Computer Applications and Network Security, Maldives, May 27-29, 2011.
- **“Accurate and Fast Video Object Tracking Technique Using SIFT and 2D Log Search”**, International Conference on Machine Learning and Computing, Singapore, Feb 26-28, 2011.

Professional Memberships

- Pakistan Engineering Council (PEC).
- IEEE (USA).

Key Skills

- Proficient in using electronic test and measurement equipment.
- Proficient in using various engineering simulation softwares.
- Proficient in Quantum Key Distribution (QKD), Optical Communication, Wireless Communication, IoT & Hardware Design.