

# DR. KOMAL MASROOR

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## EDUCATION:

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**PhD Electrical and Electronic Engineering, UNIVERSITI TEKNOLOGI PETRONAS, MALAYSIA 2017-2022**

*Thesis: On Remote Patient Monitoring Using Optical Wireless Communication: Improving SNR Uniformity Heuristically*

**M.Engg. Telecommunications Engineering, NED University of Engineering and Technology, 2010-2013**

*CGPA: 3.81*

**B.E. Telecommunications Engineering, NED University of Engineering and Technology, 2006-2009**

*Final Year Project: Target Locking and Tracking System; implemented in MATLAB it provided target locking that followed an object over an arbitrary path, even if it simultaneously changed its size and orientation. (Percentage: 85.5%)*

**HIGHER SECONDARY CERTIFICATE (BIEK), BAMB PECHS Govt. College for Women, 2003- 2005**

*Grade A-1 (85.48%)*

**SECONDARY SCHOOL CERTIFICATE (BSEK), ESNES Foundation School, 2001-2002**

*Grade A-1(84.5%)*

## TEACHING & ADMINISTRATIVE EXPERIENCE:

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- Assistant Professor (Adhoc), Department of Telecommunications Engineering (December 2022- till date)
- Graduate Assistant, Department of Electrical and Electronic Engineering, Universiti Teknologi PETRONAS, Malaysia (2019-2021)
- Graduate Research Assistant, Department of Electrical and Electronic Engineering, Universiti Teknologi PETRONAS, Malaysia (2017-2019)
- Lecturer, Department of Telecommunications Engineering, NEDUET (April 2010 – till date)
- In Charge, Ned Photography Society, NED University of Engineering and Technology (2013-2017)
- Class Adviser, First year Telecommunications Engineering, NED University of Engineering and Technology (2010-2012)

## PROFESSIONAL MEMBERSHIPS:

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- Pakistan Engineering Council
- The Institution of Engineers, Pakistan

## PUBLICATIONS:

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- Khan, D. M., **Masroor, K.**, Jailani, M. F. M., Yahya, N., Yusoff, M. Z., & Khan, S. M. (2022). Development of wavelet coherence EEG as a biomarker for diagnosis of major depressive disorder. *IEEE Sensors Journal*, 22(5), 4315-4325.
- **Masroor, K.**, Mumtaz, S., Drieberg, M., & Jeoti, V. (2022, November). Optical wireless communication based wireless body area network for remote patient monitoring. In *International Conference on Artificial Intelligence for Smart Community: AISC 2020*, 17–18 December, Universiti Teknologi Petronas, Malaysia (pp. 985-991). Singapore: Springer Nature Singapore.
- Mumtaz, S., Aziz, A. A., & **Masroor, K.** (2022, November). On the Performance of MIMO-UVLC System over Turbulence-induced Fading Channels. In *International Conference on Artificial Intelligence for Smart Community: AISC 2020*, 17–18 December, Universiti Teknologi Petronas, Malaysia (pp. 373-383). Singapore: Springer Nature Singapore.

- **Masroor K**, Jeoti V, Drieberg M, Cheab S, Rajbhandari S. “A Heuristic Approach for Optical Transceiver Placement to Optimize SNR and Illuminance Uniformities of an Optical Body Area Network.” Sensors. 2021; 21(9):2943.
- **Masroor, K.**, Jeoti, V., & Drieberg, M., “Analysing the Effects of LED Lamp Arrangements on Performance of an Indoor Visible Light Communication System”, IEEE 14th Malaysia International Conference on Communication (MICC), IEEE: 2019, pp. 54-58.
- **Masroor, K.**, Jeoti, V., & Drieberg, M., “Improving the Energy Efficiency of a Wireless Body Area Network Using a Redundant Coordinator for Healthcare Applications”, International Conference on Intelligent and Advanced System (ICIAS), IEEE: 2018, pp. 1-5.

## TRAININGS:

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- Teaching Pedagogies, 2023 NED University of Engineering & Technology, Karachi, Pakistan
- Effective Teaching Methodologies- 2011 NED University of Engineering & Technology, Karachi, Pakistan
- 3M’s training on Fiber Splicing methods-2011 NED University of Engineering & Technology, Karachi, Pakistan
- Advanced GSM HUAWEI Equipment- 2010 University of Engineering & Technology, Lahore, Pakistan

## SUPERVISION-RESEARCH PROJECTS:

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- Real Time AI-Based Emotion Detection in Speech Signals for Enhancing Emotional Understanding of Autikids
- Face detection and recognition using CUDA architecture (GPU)
- Automatic Number Plate Recognition’ for local/ customized number plates using image processing
- Panic detection in crowds/processions using image processing

## RESEARCH AREAS:

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Optical wireless communications, body sensor networks, human body communication, visible light communication, digital image processing

## SOFTWARE AND PROGRAMMING SKILLS:

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- MATLAB
- EndNote
- LaTeX
- MS Word, MS PowerPoint and MS Excel
- TracePro