

DR. HIRA MARIAM

Assistant Professor
Department of Telecommunications Engineering
NED University of Engineering & Technology, Karachi
Office Phone #: 092-21-99261261 ext. 2690 Cell Phone:00923333412074
Email: hiramariam@neduet.edu.pk/hiramariam@cloud.neduet.edu.pk

EDUCATION:

PhD Electronic Engineering, NED University of Engineering and Technology, 2016-2021

Dissertation: Uplink Performance Analysis of Millimeter wave in Heterogeneous Cellular Network
CGPA: 3.8/4.00

M.Engg. Telecommunications Engineering, NED University of Engineering and Technology, 2009-2011

Dissertation: Performance Analysis of Energy-Efficient MAC Protocols for Wireless Sensor Networks
CGPA: 3.73/4.0

B.E. Telecommunications Engineering, NED University of Engineering and Technology, 2005-2008

Final Year Project: To study IEEE 802.16e (Mobile WIMAX) with emphasis on end to end architecture. (Includes in depth study of wireless spectrum, end-to-end architecture and its applications)
Percentage: 87.8%

HSC (BIEK), Pre-Engineering, BAMB PECHS Govt College for Women, 2002- 2004

Grade A-1 (86.8%)

SSC (BSEK), Computer Science, St. Paul's English High School, 2000-2002

Grade A-1(86%)

TEACHING EXPERIENCE & ADMINISTRATION:

Assistant Professor, Department of Telecommunications Engineering (July 2022 to date)

Assistant Professor (Adhoc), Department of Telecommunications Engineering (December 2021 to July 2022)

Lecturer, Department of Telecommunications Engineering, NEDUET (June 2021 to December 2021)

Lecturer, Department of Electronic Engineering, NEDUET (Dec 2009 – June 2021)

PROFESSIONAL MEMBERSHIP:

- Pakistan Engineering Council
- The Institution of Engineers, Pakistan

PUBLICATIONS:

[J1] **H. Mariam**, I. Ahmed, S. Ali, M. I. Aslam, and I. U. Rehman, "Performance of Millimeter Wave Dense Cellular Network Using Stretched Exponential Path Loss Model," *Electronics*, vol. 11, no. 24, p. 4226, Dec. 2022, doi: 10.3390/electronics11244226 [Impact Factor: 2.69]

[J2] **Hira Mariam**, Irfan Ahmed, Muhammad Imran Aslam, "Coverage Probability of Uplink Millimeter Wave Cellular Network with non-Homogeneous Interferers' Point Process," *Physical Communication*, Vol. 45, p. 101274, April 2021. DOI: <https://doi.org/10.1016/j.phycom.2021.101274> [Impact Factor: 1.594]

[C1] **Mariam, Hira**, and Irfan Ahmed. 2023. "Performance of Dense Millimeter Wave Network with Uniform Cylindrical Array" *Engineering Proceedings* 32, no. 1: 8. <https://doi.org/10.3390/engproc2023032008>

[C2] **Hira Mariam**, Muhammad Imran Aslam, Irfan Ahmed, "Impact of Multiple Beams and Mobility based Beam Alignment Error on Millimeter Wave Communication", 7th International Electrical Engineering Conference, Karachi, Pakistan, March 25 - 26, 2022, <https://doi.org/10.3390/engproc2022020042>

[C3] Sundus Ali, Muhammad Imran Aslam, Irfan Ahmed and **Hira Mariam**, "Device-to-Device Communication Prototyping using Software Defined Radios", IECC, Karachi, Pakistan, February 2020

[C4] **Hira Mariam**, Muhammad Imran Aslam, Irfan Ahmed, "Device-to-Device Communication in Cellular

Networks: A Survey”, International Conference on Emerging trends in Telecommunication and Electronics Engineering, Karachi, Pakistan, February 27 - 28, 2018

SHORT COURSES AND RESEARCH PROJECTS:

1. Digital Transformation and Impact of IOT on Education, Industry, Health Sector, and Society Towards Creating Job Opportunities by Pakistan Engineering Council
2. Cellular Networks (2G to 5G Technology): Future Applications by Pakistan Engineering Council
3. High Impact Skill Bootcamp, Data Science (Machine Learning & Artificial Intelligence) by Ministry of Information Technology & Telecommunications
4. PhD Student Member, “Flexible Testbed for D2D communication”, funded by NRPU, HEC
5. Team Member, “PAK-UK Education Gateway Mobility Partnership for Faculty” supported by British Council and Higher Education Commission, Pakistan

RESEARCH AREAS:

Wireless communications, millimeter wave networks, joint communication and sensing, intelligent reflecting surfaces, artificial intelligence and deep learning

SOFTWARE AND PROGRAMMING SKILLS:

- MATLAB (Advance)
- EndNote/Mendeley/JabRef (Advance)
- LaTeX (Advance)
- MS Word, MS PowerPoint and MS Excel (Advance)
- Python/Jupyter Notebook/Colab (Intermediate)
- Tensorflow/keras/scikit learn (Intermediate)